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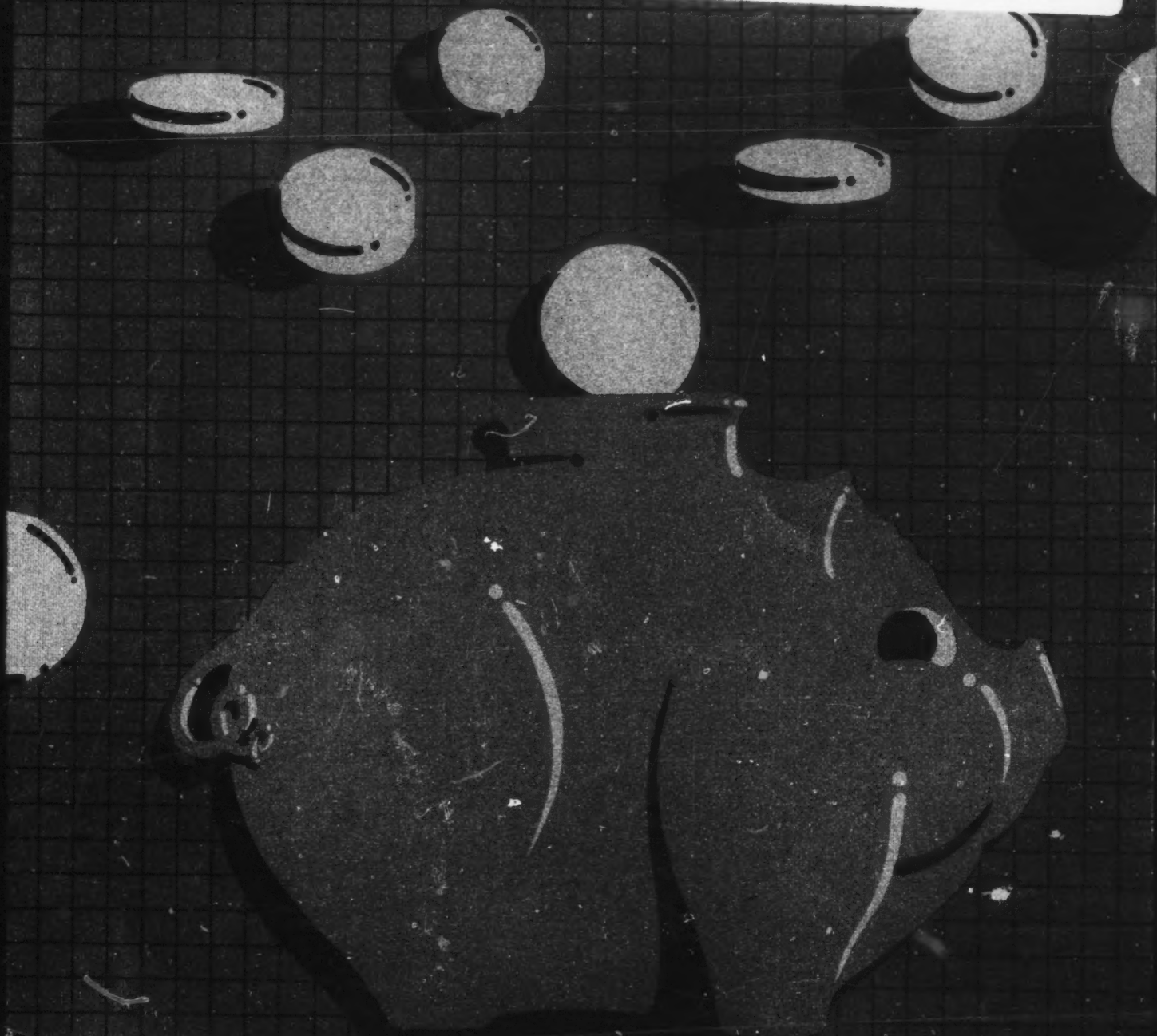

Florida:
a decade of economic growth

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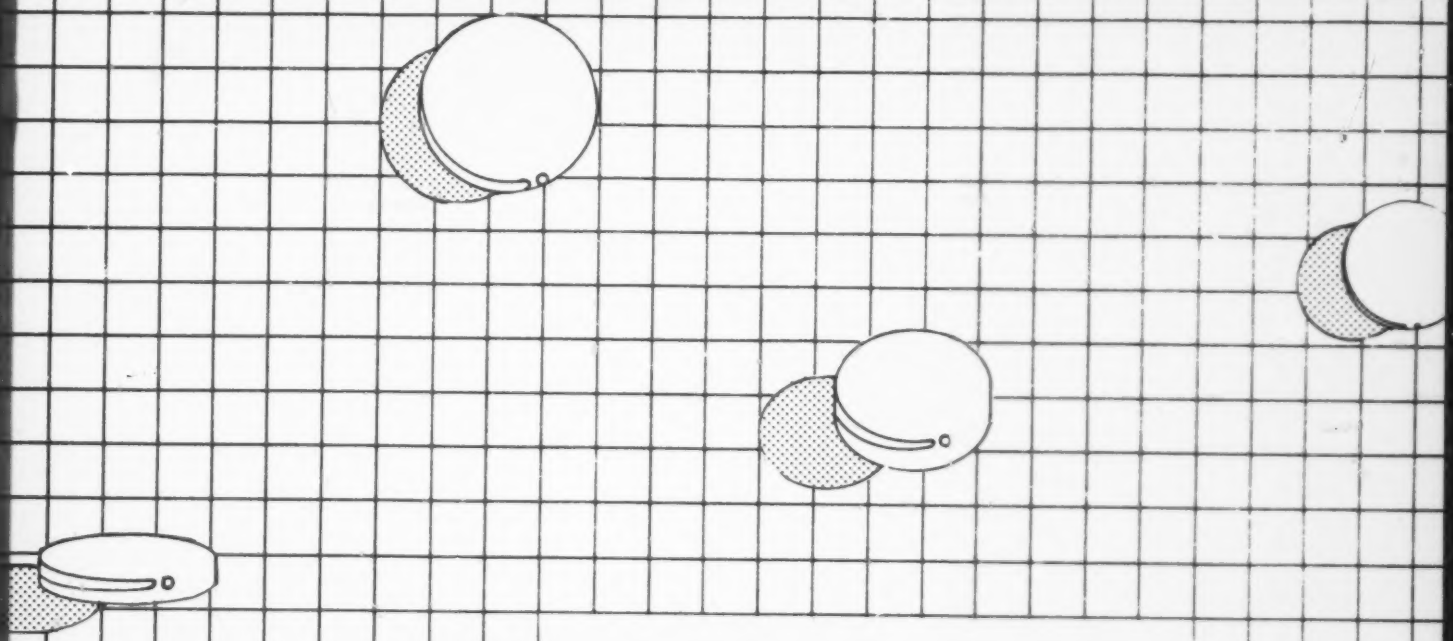
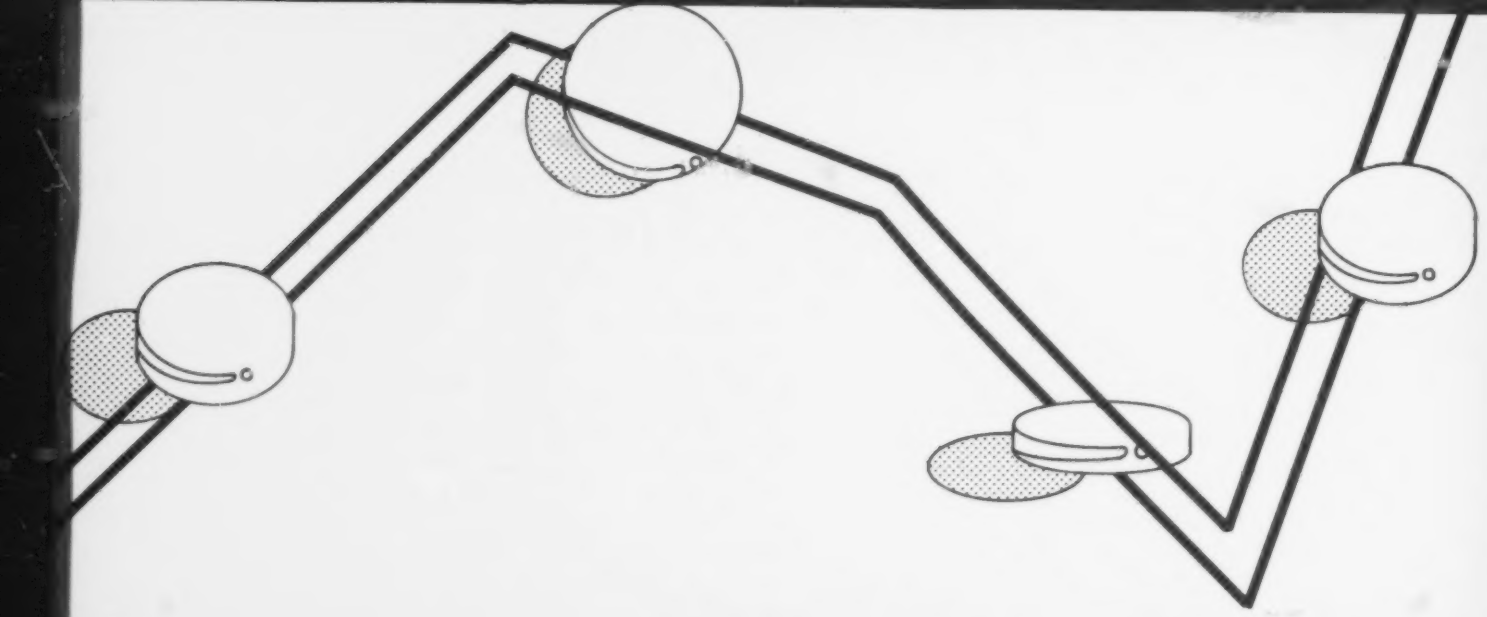


Introgram

This issue of *Dimensions* analyzes Florida's economic growth during the 1970s by focusing on trends in population, employment and income. Developments at both the state and county levels are reviewed and compared in four related articles.

First, statewide economic trends are reviewed and compared to trends nationwide. Second, population growth during the 1970s is analyzed in depth for Florida and each of its 67 counties. The third article examines economic developments in terms of employment growth in each county. Finally, increases in income during the past ten years are discussed for all of Florida's counties.

—Henry H. Fishkind, Associate Director



Economic Growth in Florida and the Nation: 1970-1980

Henry H. Fishkind

Associate Director
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Business Research

The decade of the 1970s was characterized by rapid but volatile national economic growth. The decade both began and ended with a recession. In addition, the 1974-1975 contraction was the steepest since World War II. In between these setbacks there was rapid growth in the U.S. economy. The 1970s also witnessed a dramatic shift in national economic development from the so-called Frostbelt to the Sunbelt. This shift is most apparent in the data for population, employment and income described below.

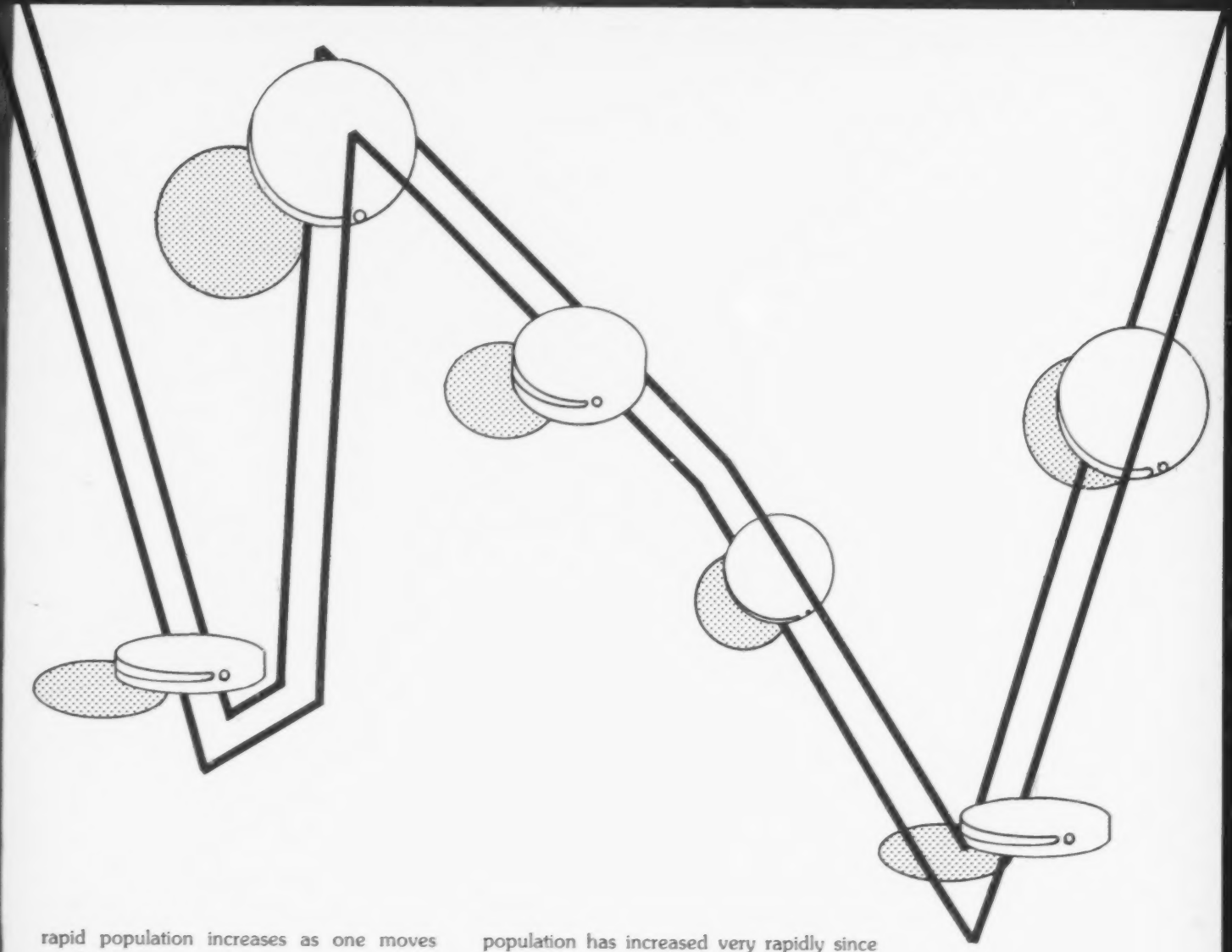
Florida, along with California and Texas, paced growth in the Sunbelt. To better understand the nature of Florida's economic development in the 1970s, it is useful to view it in perspective by comparing trends in Florida to those in other states and the nation.

The discussion below focuses on population growth, employment and income trends in Florida during the last ten years. Comparisons with other states and the nation highlight the sources and patterns in Florida's unique economic development.

Population trends

Table 1 displays data on population growth in the U.S. and its regions, and in the South Atlantic states. During the 1970s U.S. population grew by 11.4 percent to 226.5 million. Population growth was very uneven. For example, the Middle Atlantic states of New York, New Jersey and Pennsylvania lost population. By contrast, the mountain states of Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming grew the fastest, posting a 37.1 percent increase. Generally, the Frostbelt states of the northeast and north central regions grew well below the national average while the Sunbelt states of the south and west grew well above the national average.

There is also a wide variety of population growth rates for the South Atlantic states. The District of Columbia's population declined by 15.7 percent, while Florida experienced a 43.4 percent surge in population growth. The general pattern in these data shows more



rapid population increases as one moves southward.

Florida's population growth was quite impressive during the 1970s. Florida moved from being the ninth most populous state in 1970 to the seventh most populous by 1980 behind California, New York, Texas, Pennsylvania, Illinois and Ohio. In terms of percentage increases, only two states topped Florida's 43.4 percent gain—Arizona with a 53.1 percent jump and Nevada with a leap of 63.5 percent.

Florida also ranked third among the states in increases in the actual numbers of people. As Table 2 indicates, Florida's increase of 2.9 million was exceeded only by California and Texas. It is interesting to note that of the twelve states which experienced population gains of over 500,000, five are in the South Atlantic region.

During the decade of the 1970s, Florida's population increased by nearly 3 million, which was a record pace even by Florida standards. As the data in Table 3 show, Florida's population has increased very rapidly since 1950. The most rapid rate of growth occurred in the 1950s as population jumped by 78.7 percent. However, the absolute increase of nearly 3 million in the 1970s was nearly 1 million greater than the previous peak growth in the 1950s.

Employment

The decade of the 1970s was also a period of rapid employment growth and economic development in Florida. During the decade, Florida's economy generated 1.3 million new jobs as total nonagricultural employment soared by 62.6 percent. By way of comparison, total nonagricultural employment in the nation increased by a more modest 27.7 percent during this same period. As the data in Table 4 illustrate, employment growth in the national economy was more volatile than it was in Florida during the 1970s.

Table 5 displays information on the composition of employment in the U.S. and Florida.

Table 1.—Population growth, 1970-1980 (in thousands)

Area	1970	1980	Percent change
United States	203,302	226,505	11.4
New England	11,847	12,348	4.2
Middle Atlantic	37,213	36,788	-1.1
East North Central	40,263	41,670	3.5
West North Central	16,328	17,184	5.2
East South Central	12,808	14,663	14.5
West South Central	19,326	23,743	22.9
Mountain	8,290	11,368	37.1
Pacific	26,548	31,797	19.8
South Atlantic	30,679	36,943	20.4
South Atlantic States			
Delaware	548	595	8.6
Maryland	3,924	4,216	7.5
District of Columbia	757	638	-15.7
Virginia	4,651	5,346	14.9
West Virginia	1,744	1,950	11.8
North Carolina	5,084	5,874	15.5
South Carolina	2,591	3,119	20.4
Georgia	4,588	5,464	19.1
FLORIDA	6,791	9,740	43.4

Source: U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population and Housing, PHC 80-V-1.

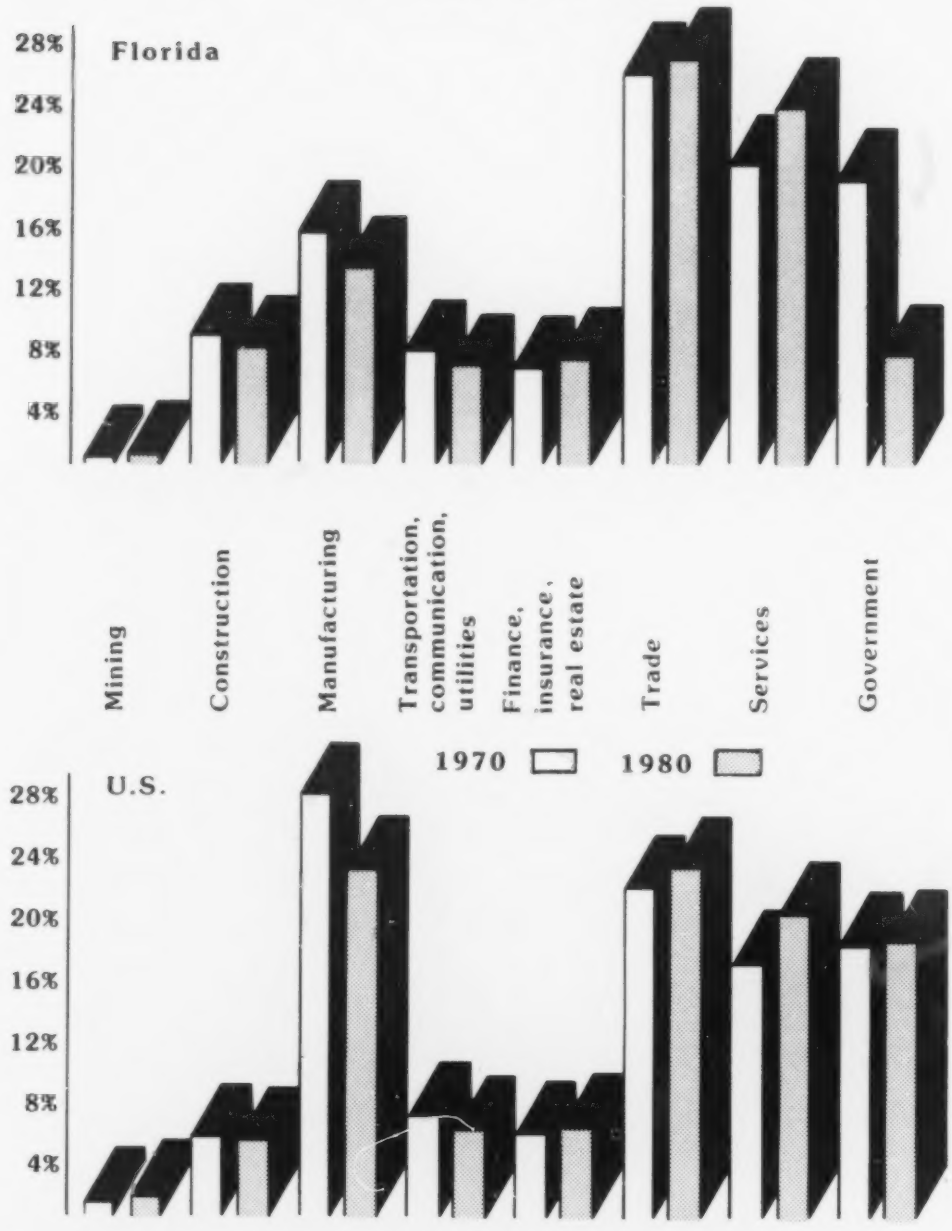
Table 2.—Absolute gains in population for selected states, 1970-1980 (in thousands)

State	Population gain
California	3,698
Texas	3,029
FLORIDA	2,949
Arizona	943
Georgia	876
North Carolina	790
Washington	717
Virginia	695
Colorado	678
Louisiana	561
Oregon	542
South Carolina	528
Nevada	311

It is apparent that there are significant differences between Florida's economy and the nation's. Florida has a larger percentage of its work force employed in the trade, service and construction sectors than is true nationwide. However, Florida's manufacturing sector accounts for a smaller proportion of employment than in the U.S.

Over time, however, the Florida and U.S. economies are becoming more similar as Figure 1 shows. From 1970 to 1980, U.S. employment became more concentrated in the service and trade sectors and less concentrated in manufacturing even though jobs in all sectors increased. This trend also occurred in Florida, but to a far lesser degree.

Figure 1.—The composition of employment in the U.S. and Florida



Income

With rapid growth in population and employment, Florida's total personal income also grew rapidly. Total personal income jumped from $25 billion in 1970 to nearly $87 billion by 1980. Some of this gain was the result of the rapid population growth described above. However, as shown in Table 6, even in per capita terms income grew from $3,698 per person in 1970 to $8,987 per person by 1980. On a per capita basis, Florida's personal income was almost equal to the U.S. average.

Table 7 sheds further light on the behavior of Florida's income. By 1980, Florida accounted for 4.1 percent of total U.S. income and ranked twenty-seventh among the states in terms of per capita income.

Table 3.—Florida population: historical trends

Year	Population (in 000s)	Change from preceeding census	
		Number	Percentage
1940	1,897	429	29.2
1950	2,771	874	46.1
1960	4,952	2,181	78.7
1970	6,791	1,840	37.2
1980	9,740	2,949	43.4

Table 4.—Employment growth in Florida and the U.S.

Year	Employment (000s)	Increase	Percent change
	United States		
1960	54,189	3,548	7.0
1965	60,765	6,576	12.1
1970	70,880	10,115	16.6
1975	76,945	6,065	8.6
1980	90,564	13,619	17.7
	FLORIDA		
1960	1,320	354	36.7
1965	1,619	299	22.7
1970	2,152	533	32.9
1975	2,746	594	27.6
1980	3,500	754	27.5

Table 5.—Composition of employment in Florida and the U.S.

Categories	United States		Florida	
	1970	1980	1970	1980
Mining	0.88	1.13	0.39	0.53
Construction	5.08	4.86	8.16	7.48
Manufacturing	27.32	22.42	14.98	12.71
Transportation, communication, utilities	6.37	5.68	7.18	6.12
Finance, insurance, real estate	5.14	5.71	6.10	6.89
Trade	21.22	22.51	25.36	26.07
Services	16.29	19.77	19.34	23.00
Government	17.71	17.94	18.48	17.20

Table 6.—Total and per capita personal income in Florida

Years	Total personal income (millions)	Per capita personal income	Percentage of national average
1950	3,635	1,293	87
1960	9,832	1,965	89
1970	25,317	3,698	95
1980	86,944	8,987	95

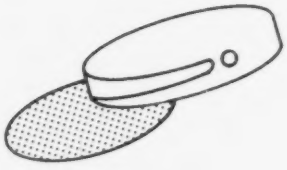
Table 7.—Personal income: total and per capita amounts in Florida, other Sunbelt states, and the United States 1980

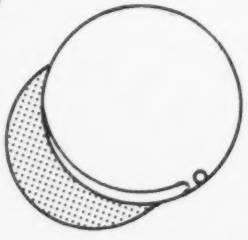
State	Total personal income			Per capita personal income[1]			
	Amount (millions of dollars)	Percentage change 1979-80	Percentage of United States	Amount (dollars)	Percentage of national average	Rank among states	Percentage change 1979-80
FLORIDA	86,944	15.0	4.1	8,987	95	27	5.5
Sunbelt states							
Alabama	28,964	10.2	1.4	7,484	79	47	7.4
Arizona	23,521	13.8	1.1	8,649	91	32	2.5
Arkansas	16,401	8.2	0.8	7,180	76	49	3.3
California	255,647	12.2	12.0	10,856	115	3	8.2
Georgia	43,241	10.8	2.0	8,000	85	37	4.9
Louisiana	34,787	14.0	1.6	8,282	88	35	9.1
Mississippi	16,347	8.5	0.8	6,508	69	50	5.0
New Mexico	10,309	11.0	0.5	7,956	84	38	6.3
North Carolina	45,919	11.0	2.2	7,852	83	39	6.4
Oklahoma	27,257	12.3	1.3	9,081	96	26	8.2
South Carolina	23,082	11.6	1.1	7,519	79	45	6.6
Tennessee	35,395	10.5	1.7	7,786	82	42	6.4
Texas	134,846	14.8	6.3	9,513	101	18	8.4
Virginia	50,229	12.5	2.4	9,435	100	19	9.9
United States	2,133,827	10.7	100.0	9,458	100	(X)	8.0

(X) Not applicable.

[1]The change in per capita personal income between 1979 and 1980 should be interpreted with caution. The population estimates used in computing 1980 per capita incomes are published preliminary population counts (as of April 15) from the 1980 Census, adjusted to include Census Bureau estimates of the number of Cuban and Haitian refugees who entered the United States between April 1 and October 1, 1980.

Source: U.S., Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, May 1981.





Population Growth Takes New Direction

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Florida in the decade since 1970 has experienced a population growth rate of 43.4 percent, one of the highest in the country. Florida's population, now the nation's seventh largest, increased from 6,791,418 to 9,739,992.

Trends in Florida's population growth have changed in past decades. Historically, Florida had four major urban population nters: the southeast coast (Dade, Broward and Palm Beach counties), the Orlando area, the Tampa-St. Petersburg area and the Jacksonville area. It was in these areas that major population increases occurred. Recently as the urban areas have matured, causing congestion and other problems, growth has shifted to outlying areas surrounding these urban centers. Many of these outlying areas have doubled in population in the past decade. Other high-growth regions are coastal areas that were previously less developed. The southwest Gulf coast and Martin, Indian River, Flagler and St. Johns counties have grown quickly as people search for undeveloped coastal areas. In the future, population flows in the state will continue to seek less crowded areas, causing rapid growth in the interior regions.

Northwest region

The northwest area has experienced the state's slowest population growth rate. Table 1 shows that in the period from April 1, 1970, through April 1, 1980, population in the northwest region increased 24.6 percent, well below the 43.4 percent increase statewide. The region's share of population relative to the state fell from 10.2 to 8.9 percent. The largest absolute increase was in Leon County with a gain of 45,000 over 1970. Wakulla County grew 72.6 percent over the same period, the largest percentage change.

Wakulla County's growth is primarily due to an overflow from Leon County. Santa Rosa County grew 48.3 percent, followed by Leon County with 44.3 percent growth. The three slowest growing counties were Gulf (5.6 percent), Gadsden (6.1 percent) and Franklin (8.4 percent). These rural counties did not have enough employment opportunities to induce migration.

Northeast region

The northeast region of Florida outperformed the northwest area but still fell well below the state average, growing 28.9 percent versus 43.4 percent statewide (see Table 2). The region's share of total state population fell from 13.7 to 12.3 percent. The greatest percentage increase, 109.2 percent, was in Clay County. This strong performance is primarily due to the southward growth of the Jacksonville area. Other counties surrounding Duval performed well, including Baker (65.4 percent), St. Johns (65.3 percent) and Nassau (59.5 percent). Marion County exhibited a strong growth rate (77.4 percent) due to the increasing popularity of north central Florida as a retirement area. The slowest growth in the region was in Duval County (8.0 percent). Much of the growth in the Jacksonville area is among people who work in Duval County and live in less-congested surrounding counties.

Central region

The central region of the state grew 45.8 percent (see Table 3) in the decade from 1970 to 1980, and the region's share of total state population increased from 13.9 to 14.1 percent. Flagler County experienced the largest percentage change with a 145.0 percent increase. Flagler had been the least developed county on the Atlantic coast, but has recently been the focus of new development. The Orlando area also exhibited substantial growth. Orange County grew at a 37.0 percent pace with a large increase occurring in the adjoining counties, Osceola (95.1 percent) and Seminole (114.8 percent). Areas in central Florida north of Orlando which had previously been overlooked for retirement purposes have enjoyed growing popularity. The slowest growing county was Brevard, increasing only 18.7 percent in the decade.

Table 1.—Population: northwest region

Area	April 1 1970	April 1 1980	Percent change
Counties			
Bay	75,283	97,740	29.8
Calhoun	7,624	9,294	21.9
Escambia	205,334	233,794	13.9
Franklin	7,065	7,661	8.4
Gadsden	39,184	41,565	6.1
Gulf	10,096	10,658	5.6
Holmes	10,720	14,723	37.3
Jackson	34,434	39,154	13.7
Jefferson	8,778	10,703	21.9
Leon	103,047	148,655	44.3
Liberty	3,379	4,260	26.1
Madison	13,481	14,894	10.5
Okaloosa	88,187	109,920	24.6
Santa Rosa	37,741	55,988	48.3
Taylor	13,641	16,532	21.2
Wakulla	6,308	10,887	72.6
Walton	16,087	21,300	32.4
Washington	11,453	14,509	26.7
Region	691,842	862,237	24.6
Percent of state	10.2	8.9	---
FLORIDA	6,791,418	9,739,992	43.4

Table 2.—Population: northeast region

Area	April 1 1970	April 1 1980	Percent change
Counties			
Alachua	104,764	151,348	44.5
Baker	9,242	15,289	65.4
Bradford	14,625	20,023	36.9
Clay	32,059	67,052	109.2
Columbia	25,250	35,399	40.2
Dixie	5,480	7,751	41.4
Duval	528,865	570,981	8.0
Gilchrist	3,551	5,767	62.4
Hamilton	7,787	8,761	12.5
Lafayette	2,892	4,035	39.5
Levy	12,756	19,870	55.8
Marion	69,030	122,488	77.4
Nassau	20,626	32,894	59.5
Putnam	36,424	50,549	38.8
St. Johns	31,035	51,303	65.3
Suwannee	15,559	22,287	43.2
Union	8,112	10,166	25.3
Region	928,057	1,195,963	28.9
Percent of state	13.7	12.3	---
FLORIDA	6,791,418	9,739,992	43.4

Table 3.—Population: central region

Area	April 1 1970	April 1 1980	Percent change
Counties			
Brevard	230,006	272,959	18.7
Flagler	4,454	10,913	145.0
Lake	69,305	104,870	51.3
Orange	344,311	471,660	37.0
Osceola	25,267	49,287	95.1
Seminole	83,692	179,752	114.8
Sumter	14,839	24,272	63.6
Volusia	169,487	258,762	52.7
Region	941,361	1,372,475	45.8
Percent of state	13.9	14.1	---
FLORIDA	6,791,418	9,739,992	43.4

Table 4.—Population: southwest region

Area	April 1 1970	April 1 1980	Percent change
Counties			
Charlotte	27,559	59,115	114.5
Citrus	19,196	54,703	185.0
Collier	38,040	85,791	125.5
De Soto	13,060	19,039	45.8
Hardee	14,889	19,379	30.2
Hernando	17,004	44,469	161.5
Highlands	29,507	47,526	61.1
Hillsborough	490,265	646,960	32.0
Lee	105,216	205,266	95.1
Manatee	97,115	148,442	52.9
Pasco	75,955	194,123	155.6
Pinellas	522,329	728,409	39.5
Polk	228,515	321,652	40.8
Sarasota	120,413	202,251	68.0
Region	1,799,063	,777,125	54.4
Percent of state	26.5	28.5	---
FLORIDA	6,791,418	9,739,992	43.4

Table 5.—Population: southeast region

Area	April 1 1970	April 1 1980	Percent change
Counties			
Broward	620,100	1,014,043	63.5
Dade	1,267,792	1,625,979	28.3
Glades	3,669	5,992	63.3
Hendry	11,859	18,599	56.8
Indian River	35,992	59,896	66.4
Martin	28,035	64,014	128.3
Monroe	52,586	63,098	20.0
Okeechobee	11,233	20,264	80.4
Palm Beach	348,993	573,125	64.2
St. Lucie	50,836	87,182	71.5
Region	2,431,095	3,532,192	45.3
Percent of state	35.8	36.3	---
FLORIDA	6,791,418	9,739,992	43.4

Southwest region

The southwest region was the fastest growing region of the state, increasing from 1,799,063 to 2,777,125, a 54.4 percent jump (see Table 4). The state grew only 43.4 percent in the same period. The southwest region's most rapid growth took place on the southwest coast and in the counties surrounding the Tampa-St. Petersburg area as population overflowed from the more congested urban areas. The region exhibited consistently strong growth with five counties, Charlotte, Citrus, Collier, Hernando and Pasco, more than doubling in the past decade. The three largest counties grew at a slower relative pace but still made large gains in absolute terms. Pinellas is still the largest county in the region, followed by Hillsborough and Polk counties. The counties with the smallest absolute increases are in the interior of the state. These areas are Hardee, Highlands and Desoto counties, which are primarily agricultural economies without the attractions of manufacturing and tourism found elsewhere in the region.

Southeast region

The southeast region of the state increased 45.3 percent in the past decade, the third fastest growing region (see Table 5). The region now accounts for 36.3 percent of total state population, up from 35.8 percent in 1970.

The southeast region was already the most developed and highly populated in the state. This situation led to lower percentage changes during the decade. The highest growth rate occurred in Martin County (128.3 percent), primarily due to a shift to the less-developed regions of the coast. The largest absolute increase was in Broward County, followed by Dade and Palm Beach. The slowest growing county was Monroe, which increased by 20.0 percent. The southeast region remains the most populated area of the state and accounted for the largest absolute increase. The already high level of development will prevent the large percentage increase seen in other less-developed regions; however, the region should still be the state's major population center.

Regional Employment Trends in the 70's

Robert Snyder

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Business Research

Northwest region

As seen in Table 1, the northwest region has experienced 28.7 percent growth in total nonagricultural employment from 1970 to 1980, while its share of total state nonagricultural employment has fallen from 8.7 percent to 7.9 percent. Industrial growth in the panhandle has been slow for most of the decade because new business favored neighboring Georgia and Alabama where attractive tax incentives were available. However, new tax laws were passed in Florida two years ago that allow qualified businesses to be exempt from property taxes for up to ten years. During these past two years, many panhandle cities have heavily recruited industrial development with some measure of success. More rapid growth is expected in the eighties.

As shown in Figure 1, the counties with the most significant growth in total nonagricultural employment were Santa Rosa (133.8 percent), Holmes (94.5 percent), and Calhoun (90.0 percent). Franklin and Gulf counties declined at rates of 34.4 percent and 9.5 percent, respectively. Holmes County experienced growth of 231.8 percent in manufacturing employment and 400 percent in contract construction. Calhoun County also showed significant growth in manufacturing and contract construction, with rates of 125.0 percent and 275.0 percent, respectively. Other counties showing strong growth in manufacturing employment were Walton (127.8 percent) and Okaloosa (80.1 percent). Washington and Gadsden counties declined in manufacturing employment at rates of 46.2 percent and 24.7 percent, respectively. There were no counties with declining growth in contract construction. Madison County, in addition to Holmes and Calhoun, had strong growth of 200.0 percent in contract construction.

Northeast region

The northeast region has always been characterized by its slow but steady growth. As seen in Table 2, total nonagricultural employment grew 24.1 percent during the seventies, the slowest growth of any Florida region. Its percentage of total state nonagricultural employment has slipped from 13.1 percent to 11.8 percent during these ten years.

During the seventies, the northeast region relied heavily on the Jacksonville SMSA for employment growth. Of the top five northeast

Table 1.—Employment: northwest region

Area	1970	1980	Percent change	1970	1980	Percent change	1970	1980	Percent change
Counties	Total nonagricultural			Manufacturing			Contract construction		
Bay	27,880	32,500	16.6	2,880	3,500	21.5	1,420	2,000	40.8
Calhoun	1,200	2,280	90.0	280	630	125.0	40	150	275.0
Escambia	69,800	79,899	14.5	12,700	NA	NA	4,700	NA	NA
Franklin	2,440	1,600	-34.4	280	NA	NA	0	NA	NA
Gadsden	9,260	9,450	2.1	1,500	1,130	-24.7	380	380	0
Gulf	4,100	3,710	-9.5	1,320	NA	NA	240	NA	NA
Holmes	1,280	2,490	94.5	220	730	231.8	20	100	400.0
Jackson	8,300	10,590	27.6	1,360	1,850	36.0	240	430	79.2
Jefferson	1,820	2,070	13.7	200	360	80.0	120	NA	NA
Leon	50,000	72,900	45.8	2,020	2,800	55.6	2,820	3,600	28.6
Liberty	500	790	58.0	300	NA	NA	20	NA	NA
Madison	2,980	3,160	6.0	760	850	11.8	20	60	200.0
Okaloosa	23,000	32,750	42.4	2,060	3,710	80.1	1,140	2,110	85.1
Santa Rosa	7,400	17,301	133.8	1,700	NA	NA	400	NA	NA
Taylor	5,240	5,180	-1.1	1,980	1,830	-7.6	160	NA	NA
Wakulla[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA
Walton	3,060	3,780	23.5	360	820	127.8	160	210	31.3
Washington	2,040	3,020	48.0	260	140	-46.2	240	250	4.2
Region	220,300	283,470	28.7	30,180	NA	NA	12,120	NA	NA
Percent of state	8.7	7.9	-0.8	9.1	NA	NA	6.9	NA	NA
FLORIDA	2,539,100	3,574,000	40.8	331,600	463,100	39.7	174,600	256,100	46.7

[1]Included in Leon.

Table 2.—Employment: northeast region

Area	1970	1980	Percent change	1970	1980	Percent change	1970	1980	Percent change
Counties	Total nonagricultural			Manufacturing			Contract construction		
Alachua	41,240	65,500	58.8	3,440	4,500	30.8	2,120	3,500	65.1
Baker	1,920	3,168	65.0	140	212	51.4	0	38	---
Bradford	2,700	3,590	33.0	440	410	-6.8	80	80	0
Clay	5,280	13,060	147.3	1,080	1,160	7.4	160	734	384.8
Columbia	8,520	10,100	18.5	1,600	1,900	18.8	160	220	37.5
Dixie	1,480	1,640	10.8	460	350	-23.9	80	NA	NA
Duval	216,900	241,632	11.4	24,700	28,274	14.5	12,200	13,508	10.7
Gilchrist	480	890	85.4	20	NA	NA	20	NA	NA
Hamilton	2,260	3,600	59.3	240	NA	NA	40	NA	NA
Lafayette	460	480	4.3	60	NA	NA	20	NA	NA
Levy	2,940	3,770	28.2	840	720	-14.3	340	360	5.9
Marion	21,540	31,690	47.1	3,000	5,030	67.7	1,200	2,830	135.8
Nassau	7,400	8,496	14.8	2,300	2,539	10.4	920	262	-71.5
Putnam	10,220	11,070	8.3	3,620	2,950	-18.5	260	360	38.5
St. Johns	9,300	14,412	55.0	980	2,208	125.3	560	501	-10.5
Suwannee	4,600	5,270	14.6	420	930	121.4	100	220	120.0
Union	1,640	2,220	35.4	180	NA	NA	0	NA	NA
Region	338,880	420,588	24.1	43,520	NA	NA	18,260	NA	NA
Percent of state	13.1	11.8	-1.5	13.1	NA	NA	10.5	NA	NA
FLORIDA	2,539,100	3,574,000	40.8	331,600	463,100	39.7	174,600	256,100	46.7

Figure 1.—Growth in total nonagricultural employment: northwest region

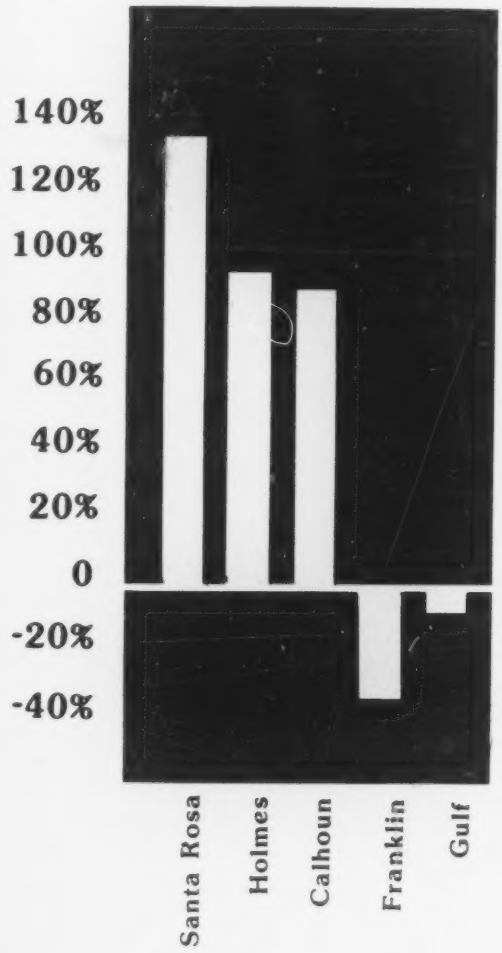
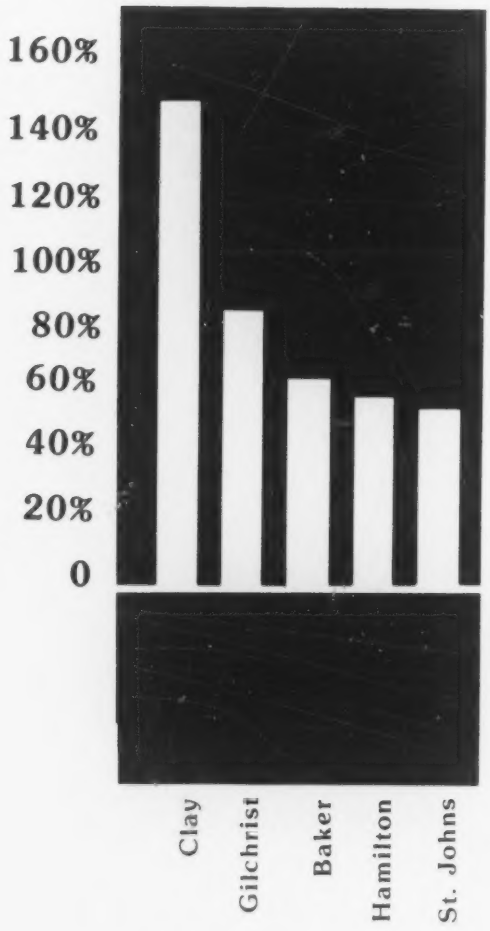


Figure 2.—Growth in total nonagricultural employment: northeast region



counties in total nonagricultural growth, three of these counties were in the Jacksonville SMSA. As shown in Figure 2, they were Clay (147.3 percent), Baker (65.0 percent) and St. Johns (55.0 percent). No counties in the northeast region had negative growth rates. The Jacksonville SMSA is expected to continue as the hub for employment growth during the eighties as businesses migrate from south Florida, exports increase to China and South America, and new businesses from the north continue to locate in Jacksonville. Employment growth is expected from other areas in the northeast region as well, because of its low real estate prices relative to the rest of the state. Recent examples include IBM's purchase of land in Alachua County and Occidental Chemical's phosphate plant in Hamilton County.

As shown in Table 2, counties with the strongest manufacturing employment growth were St. Johns (125.3 percent), Suwannee (121.4 percent) and Marion (67.7 percent). Manufacturing employment declined in four counties: Dixie (−23.9 percent), Putnam (−18.5 percent), Levy (−14.3 percent) and Bradford (−6.8 percent). Contract construction employment grew at more than 100 percent in three counties: Clay (385.8 percent), Marion (135.8 percent) and Suwannee

Table 3.—Employment: central region

Area	1970	1980	Percent change
Total nonagricultural			
Counties			
Brevard	88,500	101,500	14.7
Flagler	820	2,760	237.6
Lake	20,240	26,390	30.4
Orange[1]	155,900	274,831	76.3
Osceola	6,320	14,474	129.0
Seminole	NA	NA	NA
Sumter	3,060	4,960	62.1
Volusia	53,900	78,600	45.8
Region	328,740	503,515	53.2
Percent of state	12.9	14.1	1.2
FLORIDA	2,539,100	3,574,000	40.8
Manufacturing			
Counties			
Brevard	16,000	22,200	38.8
Flagler	160	180	12.5
Lake	2,300	3,120	35.7
Orange	21,300	25,860	21.4
Osceola	840	1,541	83.5
Seminole	3,800	8,501	123.7
Sumter	520	470	-9.6
Volusia	5,700	8,300	45.6
Region	50,620	70,172	38.6
Percent of state	15.3	15.2	-0.1
FLORIDA	331,600	463,100	39.7
Contract construction			
Counties			
Brevard	3,600	6,200	72.2
Flagler	0	120	---
Lake	1,440	1,990	38.2
Orange	13,200	14,518	10.0
Osceola	480	630	31.3
Seminole	1,400	3,995	185.4
Sumter	20	110	450.0
Volusia	2,500	4,500	80.0
Region	22,640	32,063	41.6
Percent of state	13.0	12.5	-0.5
FLORIDA	174,600	256,100	46.7

[1]Orange and Seminole combined.

(120.0 percent). Nassau and St. Johns counties had negative growth at 71.5 percent and 10.5 percent, respectively.

Central region

Growth of total nonagricultural employment during the seventies was 53.2 percent, almost double the growth rates of the northwest and northeast regions. As shown in Table 3, the central region's share of total state nonagricultural employment has climbed from 12.9 percent to 14.1 percent. Figure 3 depicts the five counties with the most growth in total nonagricultural employment during the decade: Flagler (237.6 percent), Osceola (129.0 percent), Orange (76.3 percent), Sumter (62.1 percent) and Volusia (45.8 percent). This stellar performance is expected to continue in the eighties. The strongest growth is expected from Orange, Osceola and Seminole counties, which are now considered as one economic unit. This area will benefit from industrial expansion by Western Electric, Westinghouse, Burroughs and Martin Marietta. The addition of the MCA-Universal Movie Studios is also expected to benefit future employment.

Total manufacturing employment, as shown in Table 3, has increased by 38.6 percent during the seventies. All counties in the central region, except Sumter County, had significant growth. Seminole and Osceola counties had growth of 123.7 percent and 83.5 percent, respectively.

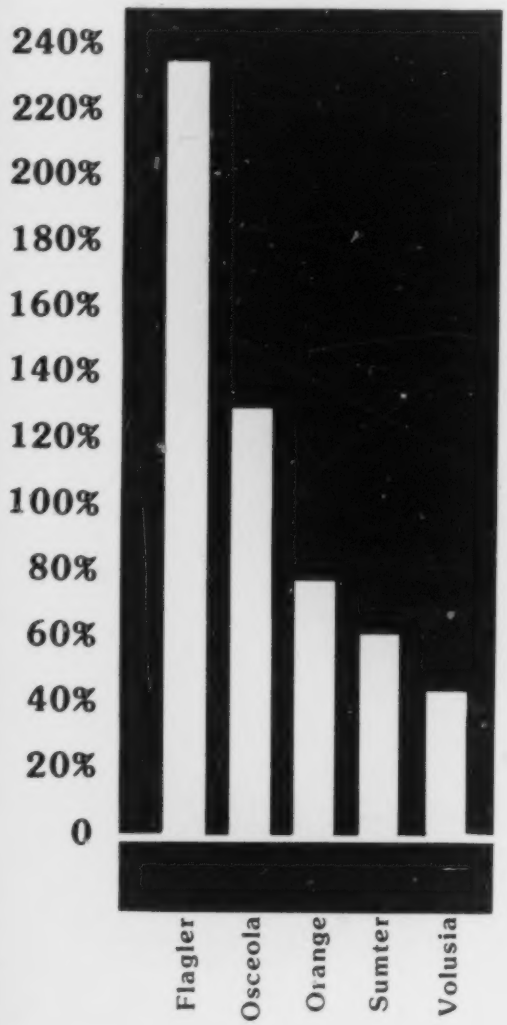
The top three counties in contract construction growth were Sumter (450.0 percent), Seminole (185.4 percent) and Brevard (72.2 percent). No counties exhibited negative growth in contract construction. The central region as a whole grew in contract construction by 41.6 percent.

Southwest region

The southwest region, even more than the central region, has shown remarkable employment growth during the seventies. As shown in Table 4, total nonagricultural employment has grown by 53.3 percent, manufacturing employment by 42.2 and contract construction employment by 73.0 percent. Whereas the central region lost 0.1 percent and 0.5 percent of its share of total state manufacturing employment and total state contract construction employment, the southwest region increased its percentage of total state employment in all three categories as shown in Table 4: total nonagricultural employment (2.1 percent), manufacturing (0.5 percent) and contract construction (4.6 percent).

While both the central and southwest regions have demonstrated considerably more employment growth than either the

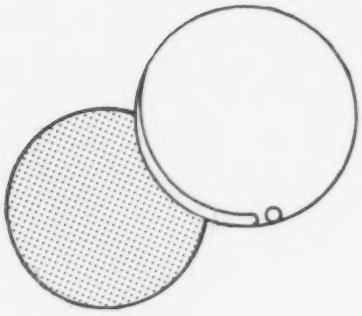
Figure 3.—Growth in total nonagricultural employment: central region

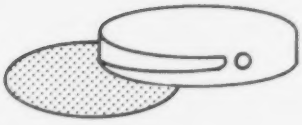


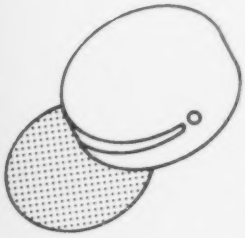
northwest or northeast regions, the underlying factors are different. As previously explained, the central region has relied on, and will continue to rely on, industrial employment. The southwest region, however, relies to a great extent on the construction industry that expands as a natural response to the influx of retirees to this area. For example, the Fort Myers SMSA, without any plans for economic diversification, has been the fastest growing SMSA in the nation. Charlotte, Collier and Sarasota counties have relied on the same strategy; the retirees are relatively wealthy and, therefore, industrial growth is not required to keep balance with population growth. A prevailing pattern of economic development does not emerge for the entire

Table 4.—Employment: southwest region

Area	1970	1980	Percent change
Total nonagricultural			
Counties			
Charlotte	6,480	13,870	114.0
Citrus	3,980	9,140	129.6
Collier	15,360	28,330	84.4
De Soto	3,660	5,200	42.1
Hardee	2,420	3,800	57.0
Hernando	4,140	8,070	94.9
Highlands	7,620	11,000	44.4
Hillsborough	193,800	272,500	40.6
Lee	36,280	67,400	85.8
Manatee	25,580	44,100	72.4
Pasco	11,700	33,800	188.9
Pinellas	166,700	243,000	45.8
Polk	85,600	120,000	40.2
Sarasota	45,080	72,300	60.4
Region	608,400	932,510	53.3
Percent of state	24.0	26.1	2.1
FLORIDA	2,539,100	3,574,000	40.8
Manufacturing			
Counties			
Charlotte	160	380	137.5
Citrus	140	330	135.7
Collier	380	980	157.9
De Soto	400	400	0
Hardee	220	500	127.3
Hernando	180	570	216.7
Highlands	600	900	50.0
Hillsborough	32,700	37,400	14.4
Lee	1,800	3,900	116.7
Manatee	5,000	7,500	50.0
Pasco	1,940	3,600	85.6
Pinellas	21,900	35,300	61.2
Polk	16,500	23,500	42.4
Sarasota	3,640	6,400	75.8
Region	85,560	121,660	42.2
Percent of state	25.8	26.3	0.5
FLORIDA	331,600	463,100	39.7
Contract construction			
Counties			
Charlotte	520	3,160	507.7
Citrus	300	1,160	287.7
Collier	2,400	3,400	41.7
De Soto	20	100	400.0
Hardee	40	100	150.0
Hernando	100	680	580.0
Highlands	480	900	87.5
Hillsborough	13,000	18,300	40.8
Lee	4,080	8,400	105.9
Manatee	1,580	4,000	153.2
Pasco	680	3,500	414.7
Pinellas	12,500	18,400	47.2
Polk	4,700	7,800	66.0
Sarasota	4,560	7,900	73.2
Region	44,960	77,800	73.0
Percent of state	25.8	30.4	4.6
FLORIDA	174,600	256,100	46.7





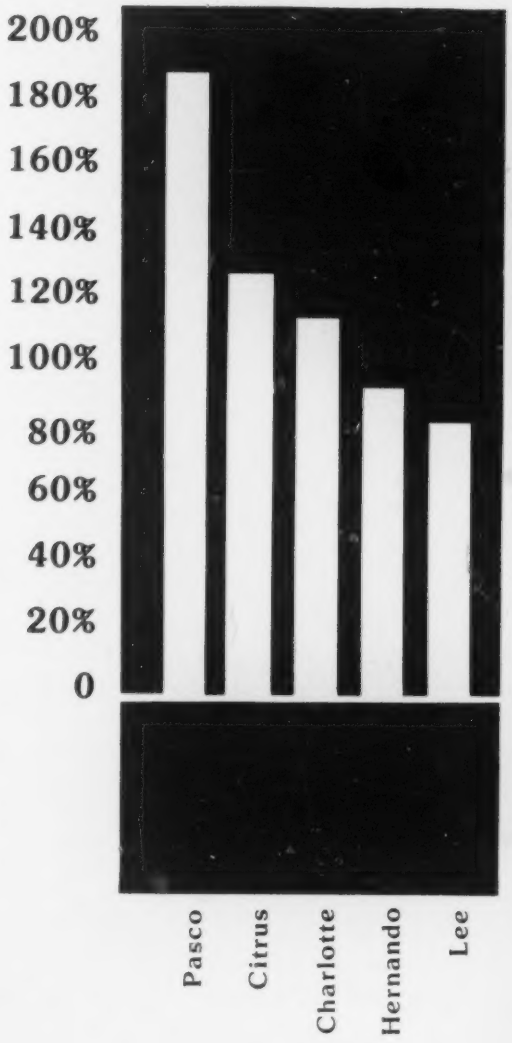


southwest region. Hillsborough, Manatee, Pasco and Pinellas counties, unlike the neighboring counties to the south, are committed to industrial diversification.

All counties in the region have shown exceptional growth in nonagricultural employment. Polk had the slowest growth of 40.2 percent. The five counties with the most growth during the seventies are shown in Figure 4.

The same exceptional growth rates are seen in manufacturing and contract construction employment. Six of the fourteen counties in the region demonstrated growth of more than 100 percent in manufacturing employment: Hernando (216.7 percent), Collier (157.9 percent), Charlotte (137.5 percent), Citrus (135.7 percent), Hardee (127.3 percent) and Lee (116.7 percent). Only DeSoto County saw no growth in manufacturing employment. Eight counties achieved growth rates of more than 100 percent in contract construction: Hernando (580.0 percent), Charlotte (507.7 percent), Pasco (414.7 percent), DeSoto (400.0 percent), Citrus (287.7 percent), Manatee (153.2 percent), Hardee (150.0 percent) and Lee (105.9 percent). The slowest growth rate in contract construction during the seventies was 40.8 percent for Hillsborough County.

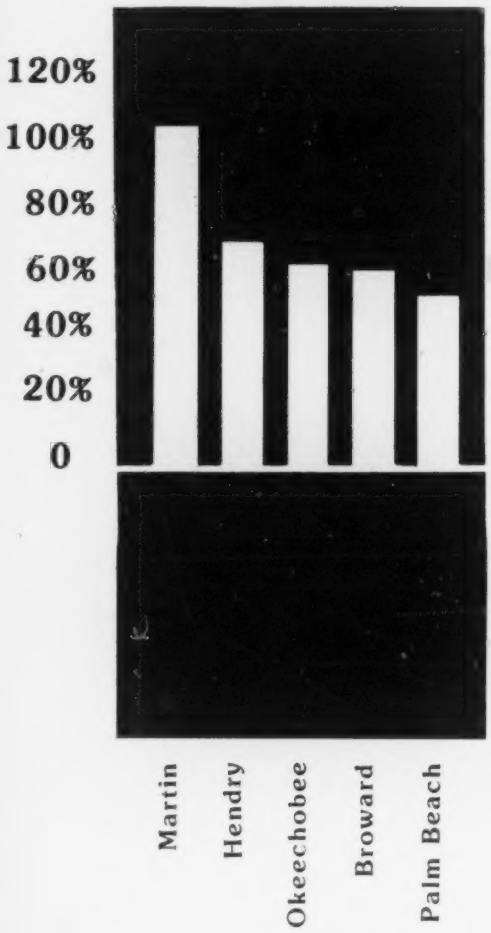
Figure 4.—Growth in total nonagricultural employment: southwest region



Southeast region

Employment growth in the southeast region from 1970 to 1980 did not reach the spectacular levels of the central and southwest regions. As shown in Table 5, total nonagricultural employment grew by 37.6 percent as the region's share of state nonagricultural employment fell by 0.9 percent. The top five counties in growth of nonagricultural employment are shown in Figure 5. Martin County achieved the highest growth at 106.3 percent, while Glades County, at 7.8 percent, achieved the slowest growth. Employment

Figure 5.—Growth in total nonagricultural employment: southeast region



growth during the seventies was especially strong in contract construction. As shown in Table 5, there were five counties that grew at rates of 100 percent or more in this area: Hendry (275.0 percent), Okeechobee (275.0 percent), Martin (186.3 percent), Monroe (179.5 percent) and St. Lucie (100.0 percent). Palm Beach County also reflected strength in contract construction with growth of 96.3 percent during the decade.

Although employment growth was not exceptional when compared to the central and southwest regions, the southeast region will have difficulty maintaining this growth rate during the eighties. The region has received massive publicity documenting its variety of problems: the influx of Cuban and Haitian refugees, the drug trafficking situation, a rapid rise in violent crime and potential water shortages. Contract construction employment, however, is likely to stay healthy for at least the first half of the eighties as construction of a rapid transit system, a 55-story Southeast Bank building and several new luxury condominium projects is completed.

Table 5.—Employment: southeast region

Area	1970	1980	Percent change
Total nonagricultural			
Counties			
Broward	222,400	356,100	60.1
Dade	588,900	729,100	23.8
Glades	640	690	7.8
Hendry	2,540	4,340	70.9
Indian River	11,120	17,020	53.1
Martin	9,200	18,980	106.3
Monroe	17,320	21,400	23.6
Okeechobee	2,480	4,000	61.3
Palm Beach	136,500	210,400	54.1
St. Lucie	15,920	23,760	49.2
Region	1,007,020	1,385,790	37.6
Percent of state	39.7	38.8	-0.9
FLORIDA	2,539,100	3,574,000	40.8
Manufacturing			
Counties			
Broward	21,300	42,100	97.7
Dade	78,700	102,700	30.5
Glades	220	NA	NA
Hendry	280	810	189.0
Indian River	940	NA	NA
Martin	1,380	1,820	31.9
Monroe	460	900	95.7
Okeechobee	200	100	-50.0
Palm Beach	20,500	28,800	40.5
St. Lucie	1,480	2,240	51.4
Region	125,460	NA	NA
Percent of state	37.8	NA	NA
FLORIDA	331,600	463,100	39.7
Contract construction			
Counties			
Broward	27,000	32,100	18.9
Dade	33,300	38,300	15.0
Glades	0	NA	NA
Hendry	40	150	275.0
Indian River	1,100	1,390	26.4
Martin	1,020	2,920	186.3
Monroe	780	1,400	179.5
Okeechobee	80	300	275.0
Palm Beach	10,800	21,200	96.3
St. Lucie	920	1,840	100.0
Region	75,040	99,600[1]	32.7
Percent of state	43.0	38.9	-3.1
FLORIDA	174,600	256,100	46.7

[1]Includes all but Glades.

Personal Income Surges Ahead

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Personal income in Florida made strong gains in the 1970-1979 period. There are several reasons for this strong performance. Major reasons include large population increases and increased economic activity associated with new manufacturing facilities as well as expansion in Florida's existing industries. It is interesting to note that the classification showing the largest percentage increase was transfer payments, which grew 324.1 percent since 1970. Personal income rose 195.5 percent in the same period, while total earnings increased 169.0 percent.

To quickly describe these series, personal income is the total income received by residents of a specific county. Personal income is derived by adjusting total earnings (which are classified by place of work), subtracting personal contributions for social insurance (social security), adding a residence adjustment (positive for wages earned by residents who work outside the county, negative for wages earned in the county by those living outside the county) and adding dividends, interest, rent and transfer payments. Transfer payments are a transfer of income from one party to another when there is no actual economic benefit provided in return. These payments are primarily retirement benefits but also include unemployment insurance and income maintenance programs.

The period from 1970 to 1979 has seen great expansion on the southwest coast and in the counties outlying the state's major metropolitan centers. Population overflow from the major metropolitan areas has triggered growth in the counties that border them, largely because of better living conditions and better travel in these locations. This growth has meant tremendous percentage increases in these areas. The comparatively low percentage increases in population for the major metropolitan areas do not indicate a lack of substantial growth, but instead indicate that the urban areas did not experience the tremendous relative increase of many smaller, previously undeveloped areas.

Northwest region

The northwest region experienced an increase in personal income from $1.98 billion in 1970 to $5.33 billion in 1979, an increase of 168.4 percent (see Table 1). This figure represents the slowest growth rate in the state, slightly below the northeast region. The economic composition of this region, primarily rural with less tourism and manufacturing than other regions, was largely responsible for this performance. One positive factor is the location of the state capital in Tallahassee.

Wakulla County, with a 262.8 percent increase in the period from 1970 to 1979, had the largest percentage gain in personal income. The prime reason for the large increase

is an overflow of people who live in Wakulla County and work in Leon County, which provides a large shift in income from Leon to Wakulla. Wakulla County also had the largest population growth rate in the region. Counties also experiencing an above-average growth rate in income were Leon, Holmes and Washington. Counties well below the region's average were Gadsden, Liberty and Escambia. Gadsden County experienced the state's lowest personal income growth rate (119.0 percent).

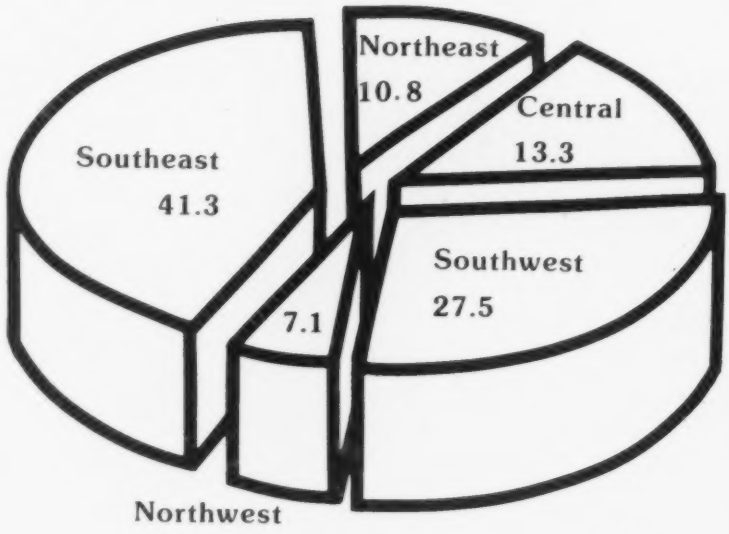
Total earnings in the northwest region increased 141.8 percent in the 1970-1979 period. This figure was well below the 169 percent increase registered statewide, dropping the region from 9.0 to 8.1 percent of the state total. As with personal income, Wakulla led the region with an increase of 288.4 percent followed by Leon (217.2 percent) and Calhoun (217.1). In contrast, the smallest increase was in Gadsden County (56.4 percent, lowest in the state) followed by Liberty and Santa Rosa counties.

Transfer payments grew 330.3 percent from 1970 to 1979 in the northwest region, the second largest regional growth in the state. Transfer payments in the area increased from 7.5 to 7.6 percent of the state total. Payments grew at the highest rate in Okaloosa County, 398.9 percent, followed by Bay with 385.2 percent and Santa Rosa with 369.4 percent. The smallest growth in transfer payments was in Liberty County at 223.0 percent, with Gadsden at 248.3 percent and Franklin at 251.6 percent.

Northeast region

Personal income in the northeast region dropped from 11.9 percent of the state total in 1970 to 10.8 percent in 1979. As shown in Table 2, the region's income grew 169.0 percent in the period compared with 195.5 percent statewide. Clay County experienced the greatest growth in personal income (269.7 percent) because of a large population increase during the same period. Many of these people are employed in Duval County. The residence adjustment (which allocates to the county of residence income earned in another county) is almost as large as income by place of work in Clay County. Other counties where income is growing above the average

Figure 1.—Percent of total personal income in Florida by region



are Gilchrist, Union, Marion and St. Johns. The lowest income growth rate was in Lafayette County, 132.4 percent, followed by Duval County at 141.5 percent. The low level of growth in Duval County can be attributed to two factors: first, a large value in the base year which causes a smaller percentage increase and second, a large negative residence adjustment for income earned in Duval County by persons residing in another county.

Total earnings in the northeast region grew 148.7 percent in the 1970-1979 period compared to 169.0 percent statewide. Well above the regional average were Union (333.4 percent), Hamilton (292.7 percent) and Clay (290.0 percent). In contrast, Lafayette grew only 78.1 percent in the same period.

Transfer payments declined slightly over the period as a percent of the state total. Clay County led in growth with a 442.4 percent increase, followed by Marion, where transfer payments grew at a 435.0 percent rate. These large increases are primarily due to retirement benefits paid to residents. Counties showing slower than average growth were Hamilton, Lafayette and Duval.

Table 1.—Income: northwest region
(in thousands of dollars)

Area	1970	1979	Percent change	1970	1979	Percent change	1970	1979	Percent change
Counties	Personal income			Total earnings			Transfer payments		
Bay	214,283	614,853	186.9	180,834	451,938	149.9	25,275	122,623	385.2
Calhoun	14,969	43,322	189.4	8,825	27,985	217.1	2,525	10,056	298.3
Escambia	649,962	1,563,676	140.6	603,243	1,328,747	120.3	69,508	293,741	322.6
Franklin	11,565	33,660	191.1	7,751	18,611	140.1	3,063	10,769	251.6
Gadsden	84,590	185,285	119.0	83,743	130,983	56.4	11,437	39,830	248.3
Gulf	27,248	70,438	158.5	24,855	64,437	159.3	2,972	11,570	289.3
Holmes	22,436	69,010	207.6	11,566	36,309	213.9	4,549	16,859	270.6
Jackson	81,528	214,428	163.0	60,537	136,519	125.5	11,790	44,733	279.4
Jefferson	18,910	56,189	197.1	12,941	34,732	168.4	2,687	10,485	290.2
Leon	327,921	1,037,959	216.5	280,731	890,466	217.2	28,256	125,521	344.2
Liberty	7,310	17,839	144.0	4,446	9,289	108.9	1,325	4,280	223.0
Madison	27,504	81,559	196.5	20,777	48,932	135.5	4,616	16,572	259.0
Okaloosa	269,705	704,512	161.2	242,176	557,461	130.2	28,326	141,327	398.9
Santa Rosa	119,707	327,848	173.9	79,266	166,610	110.2	11,405	53,531	369.4
Taylor	36,458	95,819	162.8	31,406	76,674	144.1	4,563	17,252	278.1
Wakulla	13,384	48,552	262.8	7,042	27,351	288.4	2,361	9,781	314.3
Walton	35,347	94,031	166.0	17,932	44,554	148.5	6,826	26,719	291.4
Washington	23,613	73,219	210.1	15,118	43,172	185.6	4,951	18,714	278.0
Region	1,986,440	5,332,199	168.4	1,693,189	4,094,770	141.8	226,435	974,363	330.3
Percent of state	7.8	7.1	---	9.0	8.1	---	7.5	7.6	---
FLORIDA	25,595,568	75,631,104	195.5	18,778,784	50,523,456	169.0	3,034,882	12,869,760	324.1

Table 2.—Income: northeast region
(in thousands of dollars)

Area	1970	1979	Percent change	1970	1979	Percent change	1970	1979	Percent change
Counties	Personal income			Total earnings			Transfer payments		
Alachua	308,303	963,614	212.6	279,698	818,072	192.5	32,189	138,062	328.9
Baker	21,199	71,346	236.6	16,521	37,978	129.9	2,672	11,518	331.1
Bradford	30,532	86,660	183.8	18,034	42,814	137.4	4,840	19,008	292.7
Clay	109,559	405,093	269.7	41,982	163,750	290.0	12,482	67,708	442.4
Columbia	70,835	206,277	191.2	56,871	144,283	153.7	9,115	37,441	310.8
Dixie	10,729	32,349	201.5	7,813	20,649	164.3	1,757	7,774	342.5
Duval	1,903,737	4,597,692	141.5	1,704,021	3,986,386	133.9	164,218	628,842	282.9
Gilchrist	9,668	34,635	258.2	5,164	17,082	230.8	1,384	6,337	357.9
Hamilton	16,577	48,840	194.6	16,053	63,041	292.7	2,477	9,364	278.0
Lafayette	6,923	16,088	132.4	4,315	7,687	78.1	927	3,538	281.7
Levy	34,052	101,072	196.8	23,974	57,499	139.8	5,186	21,702	318.5
Marion	210,917	707,488	235.4	150,122	421,932	181.1	29,984	160,407	435.0
Nassau	62,961	175,215	178.3	59,292	143,313	141.7	5,552	25,692	362.8
Putnam	94,734	256,325	170.6	70,485	159,480	126.3	14,100	63,361	349.4
St. Johns	97,978	327,426	234.2	64,010	170,825	166.9	12,599	59,430	371.7
Suwannee	42,247	113,689	169.1	31,452	71,567	127.5	5,783	23,518	306.7
Union	12,461	43,520	249.2	8,500	36,841	333.4	1,878	7,579	303.6
Region	3,043,412	8,187,329	169.0	2,558,307	6,363,199	148.7	307,143	1,291,281	320.4
Percent of state	11.9	10.8	---	13.6	12.6	---	10.1	10.0	---
FLORIDA	25,595,568	75,631,104	195.5	18,778,784	50,523,456	169.0	3,034,882	12,869,760	324.1

Figure 2.—Percentage increases in personal income by region, 1970-1980

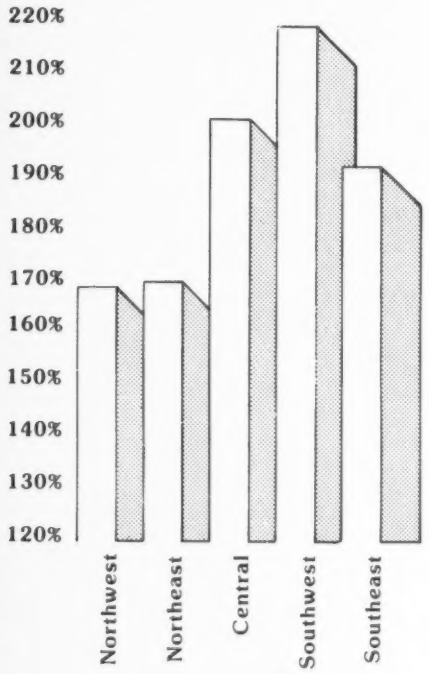


Figure 3.—Percentage increases in total earnings by region. 1970-1980

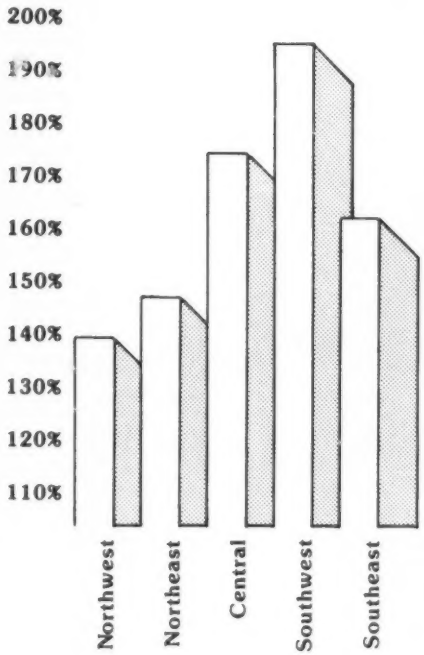
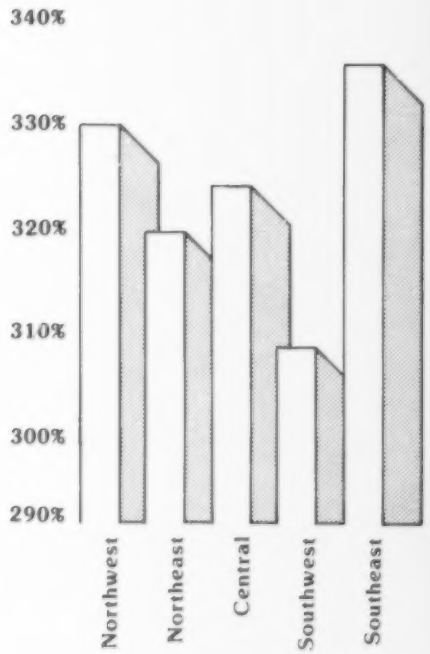


Figure 4.—Percentage increases in transfer payments by region, 1970-1980



Central region

Personal income in the central region grew 201.1 percent compared to a 195.5 percent increase statewide (see Table 3). The region's percentage of the state total increased to 13.3 percent in 1979 from 13.0 percent in 1970. The largest percentage increase in personal income was in Flagler County, 438.5 percent. Income in Osceola, Seminole and Sumter counties also grew more than 230 percent. Brevard was the only county significantly below the regional average with an income increase of 153.3 percent.

The region's total earnings increased from 13.7 percent of the state total in 1970 to 14.1 percent in 1979. Total earnings grew at a 176.9 percent rate in the region compared to 169.0 percent statewide. The largest percentage increase was in Flagler County, 423.9 percent. Osceola and Seminole counties benefited from a spillover from Orange County as their earnings grew 334.8 and 365.1 percent annually. The worst percentage increase in the region was in Brevard, where earnings grew 105.6 percent.

Transfer payments grew 324.8 percent in the 1970-1979 period, consistent with the statewide rate of 324.1 percent. Flagler County's total increased a whopping 551.1 percent while Orange County's increased 287.2 percent.

Southwest region

As indicated in Table 4 the southwest region experienced a growth rate in personal income of 218.7 percent, well above the state average of 195.5 percent. This large growth relative to the state average increased the region's share of statewide personal income to 27.5 percent from 25.5 percent in 1970. Hillsborough and Pinellas counties experienced the largest increases in absolute terms, while smaller counties were growing at faster rates. Five counties grew more than 300 percent: Charlotte, Citrus, Hernando, Lee and

Table 3.—Income: central region (in thousands of dollars)

Area	1970	1979	Percent change
	Personal income		
Counties			
Brevard	813,532	2,060,398	153.3
Flagler	11,995	64,597	438.5
Lake	259,521	793,582	205.8
Orange	1,296,447	3,910,303	201.6
Osceola	76,727	266,509	247.3
Seminole	267,779	1,091,667	307.7
Sumter	36,955	125,547	239.7
Volusia	572,768	1,731,257	202.3
Region	3,335,724	10,043,860	201.1
Percent of state	13.0	13.3	---
FLORIDA	25,595,568	75,631,104	195.5
	Total earnings		
Counties			
Brevard	743,277	1,528,122	105.6
Flagler	7,158	37,499	423.9
Lake	173,238	474,158	173.7
Orange	1,134,510	3,343,304	194.7
Osceola	39,557	171,975	334.8
Seminole	123,985	576,658	365.1
Sumter	23,936	70,957	196.4
Volusia	324,736	915,691	182.0
Region	2,570,397	7,118,364	176.9
Percent of state	13.7	14.1	---
FLORIDA	18,778,784	50,523,456	169.0
	Transfer payments		
Counties			
Brevard	78,705	382,884	386.5
Flagler	2,388	15,549	551.1
Lake	36,598	162,650	344.4
Orange	145,051	561,605	287.2
Osceola	13,310	60,419	353.9
Seminole	27,724	150,717	443.6
Sumter	6,828	30,013	339.6
Volusia	106,658	408,509	283.0
Region	417,262	1,772,346	324.8
Percent of state	13.7	13.8	---
FLORIDA	3,034,882	12,869,760	324.1

Pasco. Hillsborough County had the region's slowest growth rate.

Total earnings in the region increased 196.4 percent, outperforming the state average of 169.0 percent. The fastest growing counties were Citrus, Pasco and Charlotte, all at rates above 300 percent. Hillsborough and Highlands were the only counties where earnings increased less than 180 percent.

Transfer payments increased only 309.7 percent compared to 324.1 percent for the state, decreasing the region's share of total transfer payments to 32.4 percent from 33.5 percent in 1970. There are several large growth rates in the region, but these are explained by large increases relative to a small base-period value. Counties that grew at a rate greater than 500 percent were Citrus, Hernando and Pasco. Pinellas County, which had the highest absolute increase, showed the slowest growth in transfer payments (254.4 percent).

Southeast region

The southeast region, which represented 41.8 percent of the state personal income in 1970, dropped to 41.3 percent of the total in 1979. The region experienced 192.1 percent income growth over the 1970-1979 period, compared to the state's increase of 195.5 percent (see Table 5). Dade County experienced the largest absolute increase, while it showed the next to lowest growth rate. The smallest percentage increase was in Monroe County income, which grew only 137.4 percent. The fastest growing county income was in Martin (342.8 percent), followed by Indian River (288.0 percent) and St. Lucie (257.5 percent).

Total earnings in the southeast region decreased as a percentage of the statewide total from 40.9 percent in 1970 to 40.1 percent in 1979. Earnings for the region grew at a 163.9 percent clip compared to a 169.0 percent rate statewide. Monroe County showed the slowest pace, with a 95.7 percent increase. Martin and Indian River counties' earnings grew more than 250 percent during the period.

In contrast, transfer payments outpaced the state average in the southeast region, increasing 337.2 percent while the state's grew 324.1 percent. The southeast region received 36.2 percent of total state transfer payments in 1979 compared to 35.1 percent in 1970. Growing more than 400 percent were payments in Martin (458.4) and Okeechobee (460.4 percent). The three slowest growing counties were Dade, Glades and Monroe.

Conclusion

While all areas of Florida experienced strong income growth during the 1970-1979

Table 4.—Income: southwest region (in thousands of dollars)

Area	1970	1979	Percent change	1970	1979	Percent change	1970	1979	Percent change
Counties	Personal income			Total earnings			Transfer payments		
Charlotte	93,481	403,596	331.7	40,288	169,292	320.2	23,701	114,941	385.0
Citrus	59,810	262,092	338.2	23,407	107,947	361.2	13,045	86,115	560.1
Collier	200,895	766,684	281.6	120,452	405,915	237.0	17,770	102,256	475.4
De Soto	34,740	118,173	240.2	27,859	80,394	188.6	5,499	21,416	289.5
Hardee	41,923	137,175	227.2	30,429	93,609	207.6	4,643	17,548	277.9
Hernando	52,075	241,711	364.2	32,005	113,523	254.7	9,206	62,750	581.6
Highlands	96,631	305,957	216.6	64,232	175,267	172.9	16,083	71,242	343.0
Hillsborough	1,655,301	4,654,884	181.2	1,431,872	3,923,123	174.0	117,017	677,817	282.9
Lee	379,116	1,533,073	304.4	237,401	853,498	259.5	61,877	314,400	408.1
Manatee	322,758	1,115,565	245.6	179,508	589,361	228.3	61,079	245,408	301.8
Pasco	229,478	1,009,736	340.0	89,145	397,057	345.4	47,473	302,130	536.4
Pinellas	2,027,130	6,061,085	199.0	1,088,403	3,077,704	182.8	399,349	1,415,131	254.4
Polk	768,186	2,292,324	198.4	624,806	1,795,089	187.3	90,901	349,897	284.9
Sarasota	571,683	1,922,254	236.2	293,032	913,393	211.7	89,901	387,614	331.2
Region	6,533,207	20,824,288	218.7	4,282,839	12,695,172	196.4	1,017,544	4,168,665	309.7
Percent of state	25.5	27.5	---	22.8	25.1	---	33.5	32.4	---
FLORIDA	25,595,568	75,631,104	195.5	18,778,784	50,523,456	169.0	3,034,882	12,869,760	324.1

Table 5.—Income: southeast region (in thousands of dollars)

Area	1970	1979	Percent change	1970	1979	Percent change	1970	1979	Percent change
Counties	Personal income			Total earnings			Transfer payments		
Broward	2,897,827	9,295,833	220.8	1,556,464	4,775,148	206.8	308,003	1,483,774	381.7
Dade	5,492,566	14,249,331	159.4	4,569,166	10,999,079	140.7	509,686	1,964,638	285.5
Glades	10,330	28,814	178.9	9,178	23,903	160.4	1,029	4,119	300.3
Hendry	65,453	170,964	161.2	56,662	132,333	133.5	3,114	14,584	368.3
Indian River	128,206	497,465	288.0	80,734	287,583	256.2	19,283	88,039	356.6
Martin	112,343	497,474	342.8	67,886	275,933	306.5	16,028	89,503	458.4
Monroe	179,068	425,101	137.4	141,122	276,210	95.7	18,098	73,360	305.3
Okeechobee	31,655	105,771	234.1	24,197	67,641	179.5	3,711	20,795	460.4
Palm Beach	1,619,224	5,400,262	233.5	1,058,828	3,056,395	188.7	164,242	814,763	396.1
St. Lucie	160,118	572,391	257.5	109,815	357,726	225.8	23,304	109,530	370.0
Region	10,696,790	31,243,328	192.1	7,674,052	20,251,920	163.9	1,066,498	4,663,105	337.2
Percent of state	41.8	41.3	---	40.9	40.1	---	35.1	36.2	---
FLORIDA	25,595,568	75,631,104	195.5	18,778,784	50,523,456	169.0	3,034,882	12,869,760	324.1

period, the most impressive gains were made in many of the previously less developed counties bordering the major metropolitan centers of Palm Beach, Tampa, Orlando and Jacksonville. This is not to say that the metropolitan areas did not perform well, but that they are more mature in an economic sense and cannot make the large relative jumps seen in previously less developed counties. The period from 1970 to 1979 has proved to be a very positive period for Florida personal income.

Sources of information

A major reference source for publications in the fields of business and economics is the **AUBER Bibliography** just published by the Bureau of Business Research at West Virginia University. Now in its twenty-fifth year, the current edition is the largest ever--321 pages covering more than 125 subjects and listing more than 2,500 publications such as books, articles and monographs from 128 college and university research organizations across the U.S.

AUBER is an acronym for Association for University Business and Economic Research. The 1981 bibliography includes publications produced during the 1980 calendar year at institutions of higher education in both AUBER and in the American Assembly of Collegiate Schools of Business.

The book's editors say it offers users two distinct advantages: a large number of listings, such as working papers, that are not available in more traditional indexes; and a subject classification system adapted from the American Economic Association's *Journal of Economic Literature*. Listings are also arranged by author and institution.

Included among the citations are; *Business and Economic Dimensions* magazine, *Building Permit Activity in Florida*, the *Florida Statistical Abstract*, *Florida Economic Indicators*, *Economic Leaflets*, *The Florida Outlook*, *Florida Estimates of Population* and *Population Studies*, all produced by the University of Florida Bureau of Economic and Business Research.

The 1981 AUBER Bibliography may be ordered from the West Virginia University Bookstore, Morgantown, West Virginia 26506, for $12.50 per copy. Past issues are available on microfilm from Microforms International Marketing Corporations, Elmsford, N.Y.

Among the Florida agencies which are good sources of information for persons and organizations seeking data about the state is the **Department of Veteran and Community Affairs.** This state agency supplies a broad range of information and assistance to local governments and private individuals and is currently involved in approximately 52 different programs.

The 1981 activities of the department's Division of Local Resources Management include such items as Accessibility for Handicapped Persons, Areas of Critical State Concern, Coastal Energy Impact, Federal General Revenue Sharing, Grants Assistance Program, Model Energy Efficiency Code for New Building Construction, Power Plant Site Planning, State Assistance for the National Flood Insurance Program, Temporary Housing Program and many others.

Areas under the management of the department's Division of Public Safety Planning and Assistance include Crime and the Elderly, Disaster Response and Recovery Assistance, Florida Network of Victim/Witness Services, Natural Disaster Hazard Mitigation Planning, Treatment Alternatives to Street Crime, and others.

The department also includes a Division of Veterans Affairs and the departmental secretary's office supervises the Office of Community Services and the Office of Substate Program Development. In addition to supplying information and technical assistance, the department also publishes reference and technical materials.

Those seeking information about department programs should write:

State of Florida Department of Veteran
and Community Affairs
2571 Executive Center Circle, East
Tallahassee, Florida 32301
(Telephone: 904/488-2356)

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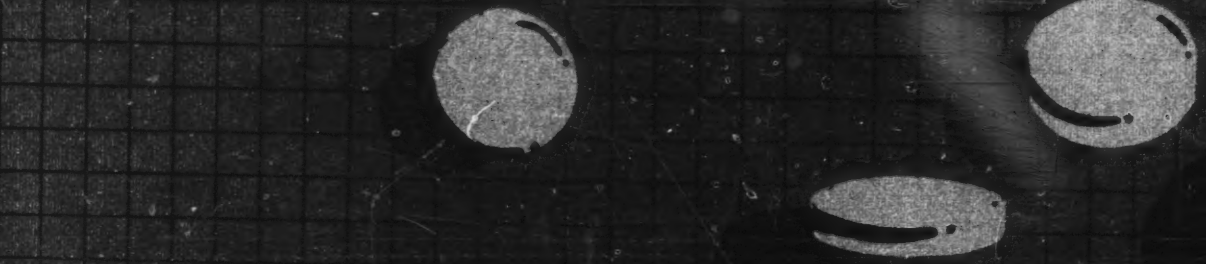

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Introgram

This issue of *Dimensions* is devoted to a report of the Florida Economic Outlook Conference held in Miami on January 12, 1982. The conference, sponsored by the University of Florida and the Florida Council of 100, is designed to give the state's business leaders a preview of the economic environment that they will face in the coming year. Developments and trends at both the state and national levels are reviewed and compared in five articles.

First, Governor Bob Graham takes an overview of Florida's economy and outlines state policy responses to the challenging economic environment we face today. Second, Allan Meltzer, currently a professor of political economy and public policy at Carnegie-Mellon University, puts our current economic situation into perspective and offers his analysis of the various policy options available to the Reagan administration. In the third article, Lawrence Chimerine, chairman and chief economist of Chase Econometrics, interprets recent economic events and formulates his scenario for a healthier economy. Fourth, a panel of five leaders in Florida's financial community takes a closer look at what's happening today in the state's financial industry as it affects commercial banks, savings and loans and the insurance industry. Finally, Hank Fishkind, Associate Director of the Bureau of Economic and Business Research, details the bureau staff's annual Florida Forecast for the state's economy in 1982.

Florida Looks Ahead to Better Times

Bob Graham
Governor
State of Florida

I appreciate the opportunity to be with you today in what is clearly a time when one needs to exercise extreme caution in making prophecies about what the economic future will be. I was intrigued with the last issue of *Fortune* for 1981, which I would recommend to you. First, because there is an outstanding article about the business school at Florida A & M University, of which we are very proud. Second, because there is an analysis of what's going to happen in 1982 by three economists, Otto Eckstein and Allan Greenspan, as well as Lawrence Chimerine, who will be your noon speaker today. All three reached somewhat similar ultimate conclusions—that there would be a continued decline during the first two quarters of 1982 and some beginning of a recovery at the end of the year, and then they drifted off as to what would happen after 1982, but they reached their conclusions by three entirely different analyses.

The speaker at noon today, *Fortune* reported, will state that he thinks his conclusion will be reached because there will be an abandonment of Reagan economics, a delay of the tax reductions that are scheduled for 1982 or an increase in other forms of taxes, and a major reduction of defense spending. Greenspan reaches the same conclusion because of what he considers to be a continued commitment to Reagan economics and a relaxation on the money supply by the Federal Reserve Board. Eckstein says that Reagan economics and the Federal Reserve policy will stay in effect but that the velocity of money will increase to all-time record highs and, therefore, result in this happy conclusion. So, if three such distinguished economists have that much difficulty arriving at what is the path to our future, what will it be like for some poor politician trying to look at a crystal ball?

Long-term policy goals

Today, I'd like to discuss some long-term goals and some intermediate strategies for accommodating specific occurrences. In terms of long-term goals, clearly among those at the highest priority for our state are to develop a more stable and diversified economy by pro-

Governor Bob Graham (second from right) is welcomed to the Outlook Conference by (from left) University of Florida President Robert Q. Marston and Council of 100 members M. Lewis Hall, Joseph Penner and Howard Nix.

moting economic activity in addition to our three traditional sectors of agriculture, tourism and construction; second, to achieve that goal within the policy of increasing the personal income of Floridians to a national average level as rapidly as possible; and third, to operate state government in a manner that it will contribute to the achievement of these as well as other social and economic goals of the state through a responsive, yet disciplined, state policy.

Regarding the period of economic cycle, we have attempted during the first two and one-half years of my administration, while we were operating at a period of very expansive economic activity, to maintain a level of state spending that was within the constraints of inflation and demographic growth. This policy resulted in significant additions to our state surplus; that is, the application of these two policies resulted in spending below the resources available through tax revenue. For example, the state's working capital fund, which is essentially our reserve fund, had $11.3 million on July 1, 1978. By July 1, 1980, two years later, it was $321.5 million. So we have been preparing for a period of downturn by reserving funds during a period of prosperity. I believe there is some biblical admonition to that effect.

During the period of economic decline which we are now experiencing, it will be our policy to try to stimulate the private-sector economy of the state in a countercyclical way, although one of the key responsibilities of state government during a period of decline is the management of its own internal affairs. I do not believe it is appropriate to conclude that this is the end of the state's responsibility. The state also has a responsibility for the economic well-being of its people and should, to the degree that it is capable of doing so, manage its affairs to contribute to that larger well-being of Floridians.

One of the most important short-term strategies, as well as long-term goals, is to continue encouraging a close cooperation and understanding of mutual responsibilities between the public and private sectors of our state. An outstanding example of this concept has been the eminent scholar program of our state university system. This program urges the private community to make a major contribution of $600,000 for the establishment of

a chair within one of our state universities. The $600,000 is then supplemented by $400,000 from the state for a total of $1 million, which is used as the permanent financing to attract to our state a distinguished academician who will elevate the level of our university system and assist our state and its people in meeting priority goals. This has been an extremely successful program.

States face adversity

You will be the beneficiaries today of analysis of statistics and trends, and predictions of what will happen in our economic future. I will discuss these aspects in the context of how they will affect individual Floridians and the necessity of appropriate public policy to respond during this period of economic uncertainty. As I indicated earlier, a primary concern must be the sound and prudent management of state government, and the exercise of the government's resources to the best total public benefit. Florida's situation is not unique. In the past year, states throughout the nation have been sorely tested as the recession inflicts its pain. Florida has scored higher than most and the truest examination of our economic strength is found in these times of adversity.

Let me share with you some news bulletins which appeared during the latter part of 1981. Connecticut, which in 1981 enacted a package of new and increased business taxes and highway tolls, still faces a deficit of $76 million. In Massachusetts, state agency budgets were cut by $265 million and 3,600 state employees laid off to finance a package of aid to local governments in the wake of their proposition 2 1/2. In Missouri, the governor recently vetoed a $360-a-year pay increase for state employees to keep the 1982 budget in balance. In South Carolina, the governor imposed a hiring freeze during 1981 to avert a deficit. Forecasters in Minnesota were predicting a $500-million deficit for the 1981-83 budget, and the state's bond rating was reduced. California's state operation budgets were cut, and state construction and public work programs were halted. So, the list continues of difficulties faced by the states in this time of inflation and federal budget cutbacks.

Florida's experience reflects these difficulties as well, but the differences are significant because:

1. This period was anticipated. In early 1979, a state "rainy day fund" was developed to protect state public services from just such a period of economic decline.

2. We recognized that Florida must expand its economy and diversify its business interest away from traditional mainstays.

3. We acted promptly to reduce government expenditures when the recession first became evident in our state. The "rainy day fund" was tapped for $21.7 million and $31 million was reduced from the 1981-82 state budgets to finance the estimated shortfall of more than $50 million for the current fiscal year. As we enter this new year, the state is taking additional steps to shelter our most vital state services from national economic turmoil.

"During the period of economic decline which we are now experiencing, it will be our policy to try to stimulate the private-sector economy of the state in a countercyclical way, although one of the key responsibilities of state government during a period of decline is the management of its own internal affairs."

Budget outline

Three weeks ago, I submitted the budget for the 1982-83 fiscal year to the 1982 legislature. In this budget, which represented an amendment to a previously submitted biennual budget in February, 1981, we reduced general revenue expenditures by $491 million below the level recommended initially. This reduction was necessary because of a decline in the estimated rate of increase in state economic activity. The original budget had been predicated on a rate of state revenue growth of approximately 11 to 12 percent. We now estimate that the state revenue growth for 1982-83 will be in the range of 8 to 9 percent. The budget submitted in December, 1981, means no new taxes for state government services, and reduces spending below 1981-82 levels in almost half of the state agencies. This reduction enabled

us to continue funding the priorities of our state, which are law enforcement, education, economic development, community care for the elderly, transportation and protection of the environment. We are enhancing the resources in these areas to meet the needs of our people, and in each instance, there will be additional funds available.

By increasing our law enforcement budget by $112 million, we are reenforcing the commitment made in the 1981 legislature for effective state assistance to local law enforcement in a partnership to make our state safer for our people, our property and our spirit of personal security. We are spending an additional $271 million on education. Our goal is to move the State of Florida by 1985 into the top 25 percent of states in the nation for student performance and in resources committed. This is the second year of that five-year program, and we are moving on a track which will achieve that goal.

The budget that we have submitted takes the next step. We are recommending an increase of $7.8 million in the Department of Commerce budget to continue the effort toward economic expansion. Commitments made toward expanding international trade are an example of the kind of effective partnership between the state and Florida's private interests that are committed to international expansion. We believe such partnerships will pay great dividends.

We are recommending the spending of an additional $204 million on Florida's transportation network. We are not going to solve Florida's transportation problems until a permanent, stable source of additional financing for transportation is available. At the 1981 legislature, I identified three transportation problems, each of which had a cost factor of approximately $100 billion. The first problem was to assure the expedited completion of the interstate; the second was additional funds for local governments for all their transportation needs with a particular attention to the increasing demands of public transit; and third, assistance to the State Department of Transportation for its maintenance and rehabilitation program and the expansion of our state's primary system. At the 1981 legislature, $75 million in automobile license tag money was allocated for a special fund to assure the completion of Florida's interstate system. Because of this allocation and some aggressive pursuit of discretionary federal funds, the earlier estimates of dates for completion of the interstate have been substantially accelerated. The interstate, for example, from north of Tampa through Naples and then into the southeast part of Florida will be completed as much as two to three years ahead of original schedule. As enacted by the legislature in 1981, and as we are requesting again in 1982, some of our accumulated surplus will go to meet our most urgent maintenance and rehabilitation needs—approximately $50 million. The great deficiency continues to be in support to local governments' transportation needs, and I see the topic of aid to local governments, including law enforcement, transportation and an alternative to property taxes, being one of the central policy questions of the 1982 session.

"The truest examination of our economic strength is found in these times of adversity."

By enacting the Save Our Coasts program, which has been proposed to protect Florida's most critical resource which often identifies our state, we are recommending a new program which will provide the financing for acquisition of $200 million of coastal areas during the next three years.

By expanding our community care for the elderly program, we will bring services to thousands of older Floridians. In 1975, Florida had approximately 30,000 people in nursing homes, of whom half were on publicly supported nursing home programs. This figure was the highest proportion of nursing home residents of any state in the nation, and was to be expected in a state which had the highest percentage in the nation of people 65 and older. The projections of the human and economic costs of this situation through the balance of this century were staggering. We began in 1975 to look for alternatives to this high level of institutionalization, which was affecting not only nursing homes but also 25 percent of the people in our state mental institutions, who were there, not because of a psychotic condition, but because of an age condition in an absence of any other means of providing effective services.

The answer was to begin an effective, state-assisted program of community-based care for our elderly citizens. This year services are being provided for 15,000 older people, almost all of whom would be in a nursing home but for this community service. The budget that we have submitted will increase this number to 20,000. Our goal by the year 1990 is to provide these services to all older Floridians who are eligible and in need. The cost savings for this program are staggering. It costs the state more than $800 per month to maintain a person in a nursing home. This figure reflects a state-administered program paid under current rates of reimbursement which are approximately 60 percent by the federal government and 40 percent by the state. This percentage shifts with a higher level of state support. The community care for the elderly program costs $70 per month for the average recipient.

Administrative actions

In addition to these steps, which relate to short-term and more fundamental state policies, we are taking some administrative actions to provide state assistance to our private economic sector. First, we are committed to an acceleration and a greater effectiveness in our permitting process. For example, in 1979 the Department of Environmental Regulation processed 12,000 permits at an average of 70 days per permit. In 1981, the department processed 16,000 permits at an average of 31 days per permit approved, which is an important indication of a commitment to greater efficiency and responsiveness of state government. I have asked all state regulatory agencies to review permits which are now under review to determine those which will result in the greatest degree of job creation if the permit is granted, and to give these permits priority attention. Everything within the proper regulatory framework to accelerate job creation will be attempted during this period of economic downturn.

Second, one of the criticisms of the state's performance in the mid 1970s during the last major recession was that the state had substantial amounts of public construction funds authorized but not under contract. I have asked all state and local agencies, particularly local educational agencies, to report their construction schedules on a monthly basis. Everything possible will be done to prod, push and expedite these contracts from authorization into construction and jobs during this period. During the last two years, as a result of funds coming directly to the state through the utility tax and additional resources made available to local school districts through the two-mill program for capital outlay, more than $500 million in funds for school construction, renovation and repair have been authorized. I am anxious to see that all possible funds are committed during the next few months to ensure their maximum impact. This is also a very good time for public construction to be taking place, as those in the construction industry know all too well. Paul Pappas, secretary of the Department of Transportation, told me that on one of their recent interstate lettings with an estimated cost of approximately $10 million, the actual contract came in 80 percent of what their original estimate had been, a reflection of the degree of competitiveness existing in our construction industry now.

Third, in October, 1980, the public adopted a constitutional amendment authorizing the creation of a Florida Housing Finance Agency. Florida was one of the last states to have a state agency specifically designed to provide an alternative form of financing for lower-middle-income persons. We have encountered some considerable difficulty in getting this agency under way because its creation coincided with some major changes and restrictions in federal laws and regulations governing the operation of such agencies. We now are beginning to see some light at the end of the tunnel. In December the first major bond issue of $55 million, which will be used for multifamily projects, was let. Our goal is to have another major bond issue in the range of $100 to $200 million available by this summer which will be used for a mix of single- and multifamily projects. At the State Board of Administration level, which is composed of the comptroller, the treasurer and the governor, consideration is being given to ask the legislature for authority to expand the use of our state pension and retirement funds for housing finance. We have been very conservative in Florida in the use of these funds, and

have made most of our investments in long-term fixed bonds, and those who have any experience with bonds know what has happened to capital invested in this form. The New York State Employees Pension and Retirement Fund has invested in inflation-hedge items, with their premier investments in Florida real estate. The New York State Pension and Retirement Fund is investing in Florida real estate and the Florida State Retirement System is not, and is arguably legislatively constrained from doing so. This practice is wrong on several counts. Hopefully we can move forward to make this additional source of revenue available, applying the prudent-man test to any investments made, but to be of a dual benefit to our state employees by adding this additional dimension to our investments for inflation-hedge purposes and also to put the money into productive Florida uses.

Economic standing improving

The sound management of state government is a fundamental responsibility of the Governor of Florida. Our obligation to the Florida economy extends beyond our own purposes in the capital. For that reason, we launched in 1979 an ambitious program of economic expansion. By any measure, we have much progress to be proud of. The Council of 100 in 1977-78 financed some major studies of diagnosing Florida's economy, and the appropriate relationship between the state and private economy, to make Florida more competitive and contribute to our economic expansion. This study has largely served as our road map for action, and following that road map is bringing us to our destination, a belief shared not only by Floridians but also by others. E. F. Hutton Company recently named Florida the best performing state in the southeast in terms of economic growth in 1980. Merrill Lynch in 1981 raised the bond rating of Florida to an all-time-high Triple A. I do not need to tell you what the economic significance to our state of these improvements in bond ratings will be. *Business Week* said that Florida's strengthening economy is an important factor in making this state a good investment. It is in this context of a disciplined state government, an enhancement of those services most valuable to the people and a vigorous economic development effort that we must view Florida in 1982.

It can't be said today that business is booming in Florida, or that Floridians can rest assured that they are sheltered from national economic conditions. No state enjoys the privilege of being an island immune from the economic occurrences nationwide. I have some bad news to report. Revenues collected by the state in December, 1981, were approximately $11 million below those estimates made by state economists in October, 1981, upon which our downward revision in the budget was predicated. We will be monitoring that factor closely to determine the necessity of making further reductions in state agency budgets or use of our "rainy day fund" during the balance of this fiscal year. Florida's unemployment rate, while lower than the national average, increased to 7.6 percent in December, and this increase spells additional hardship for many job-seeking Floridians. Housing starts in 1981 were down to 145,000 compared to 176,000 in 1980, which means further reductions in construction industries. These factors strongly support our decision to limit government spending, just as citizens throughout this state are limiting their own personal expenses. Our state, however, has shown its youth and its vibrant, economic resiliency. Our population is continuing to grow, and tourism in 1981 held almost as steady as in 1980 when we attracted 33 million visitors. Another major commitment of the State Department of Commerce has been to expand the pool of international visitors in our state, which last year reached approximately 3½ to 4 million, an almost tenfold increase over the past decade. We see this as a major opportunity for an effective private-public partnership. Real personal income was strong in 1981, growing by 5.5 percent in the first quarter and 6.2 percent in the second quarter.

Our state must be committed to continue this pattern of progress as the winds of inflation affect our state and its citizens. I pledge to continue this progress as we prepare to ride out this rough year. I seek your support in a disciplined state government and in a commitment to the priorities fundamental to the future enhancement of our state in expanding our economic activity and in stimulating a productive and healthy economy for Florida.

The National Economic Outlook

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Allan Meltzer, currently a Professor of Political Economy and Public Policy at Carnegie-Mellon University, has broad teaching experience, having been a Visiting Professor at Harvard, the University of Chicago, the University of Rochester, the Yugoslav Institute for Economic Research and the City University, London. His reputation in the field of money and capital markets has brought frequent assignments with Congressional committees, and as a consultant to the President's Council of Economic Advisors, the U.S. Treasury Department, the Board of Governors of the Federal Reserve System, and to foreign governments and central banks. His writings have appeared in numerous journals both here and abroad. Also, he is founder and co-chairman of the Shadow Open Market Committee and the Shadow European Economic Policy Committee.

The problems that we face in this country have been building for a long time. To understand the current economic problems, we have to look at how we arrived at our present situation, which resulted by perhaps taking the advice of the economists. There were five key decisions that brought us to where we are today, not all of them the fault of economists. Many of these actions are the result of the kind of quick solutions which we as citizens have demanded of our government.

First and foremost is the high rate of money growth that produced the high rate of inflation. Each period of recession, beginning fifteen years ago or more, produced a response. People said something has to be done about inflation, and we tried to do something about inflation by slowing the economy down, which produced a recession. As soon as there was a recession, people said our priorities have changed; the government must act to end the recession. So the government responded in the same manner that had produced the last wave of inflation, which produced an even higher rate of money growth than before. These actions cured the short-term problem of recession, but produced the next long-term problem of inflation. So that over time, each peak in the rate of inflation was higher than the previous peak; each trough in the rate of inflation was higher than the previous trough. The rate of money growth continued to rise over this period, and we produced ever-increasing rates of inflation. However, this inflation didn't just raise prices. It moved us all into higher tax brackets.

Because we had high tax rates, a second problem occurred. As a result of paying high taxes, we saved less, consumed more, invested less and, therefore, had a problem of low investment.

This situation led to our third problem—because we had low investment, there was a low rate of increase in the capital stock. Capital stock per man declined, especially in the middle seventies and thereafter. Because we had less capital to work with, because the capital was old, because the modern new plants and equipment that people had built as a result of the capital spending surge in the sixties began to look old, this decline eventually produced low productivity growth coming in from the middle seventies on.

The fourth problem was the oil shocks in 1974 and 1979, when the government misdiagnosed the nature of the problem. The 1974 oil shock was seen as producing a big recession, and the government decided it would respond in the same way it had in every other recession by spurring the economy through tax cuts designed mainly to increase our consumption spending. As a result we spent more for consumption, but because we were poorer, and from the increased spending and the oil shock effects, the additional government and consumption

spending came from the investment side. Consequently, investment declined even further, which continued us along this road which has produced low, zero or even negative productivity growth for substantial periods of time.

Finally, because of this misinterpretation of policy and the cut in taxes, we had a size of government which was larger than people thought they had wanted or contracted for. The 1980 election was run on a conflict between two groups of people—those who thought something new was needed and those who favored continuing the old policies.

Policy responses needed

Since 1973, my friends and I on various shadow committees have recommended four policy responses which were different from the policy responses tried up to that time. First, to slow inflation, we must be aware that whenever inflation slows it unfortunately produces a recession. We must try to make that recession as small as possible by having sustained, gradual, persistent and maintained reductions in the rate of money growth through the recession. We cannot back off as soon as trouble arises. As a society, we must agree to continue the policy until it is effective.

Second, we have to cut the growth rate of government spending, and get the resources back which are largely going to support consumption and divert them into investment. We have to reverse the wrong decisions made in the sixties and seventies, which may have seemed right at that time and recognize that if we had known in 1965 or 1972 that those programs were going to be so costly, they wouldn't have been enacted. Repealing these programs is hard to do because we have to take away entitlement programs from people. If investment is going to increase, we must reduce government spending as a share of GNP. As a result, the size of government will gradually come into balance, and we will have more money for both consumption and private spending, and for both consumption and investment.

The third thing we must do is cut the burden of tax rates, with permanent reductions in tax rates, not temporary tax cuts.

Finally, we must have a floating dollar isolated from inflationary and deflationary policies and from the gold standard or any other standard that would keep us on a fixed exchange rate. We also should deregulate oil and, to the greatest extent possible, deregulate some sectors of the American economy that have been regulated too long.

So that was our program; a program of monetary restraint, cuts in the growth of government spending, cuts in tax rates, implementation of the floating dollar and increased deregulation. To varying degrees, all these steps now have been taken. It will take two years for us to turn the economy around. The first year was 1981, and 1982 will, if we persist in these policies, be the second year.

Is the economic program working?

It is legitimate to ask after we've been through this first year—how is this program working? Is it working at all? We will have a mild recession similar to the 1980 recession by the time it's finished, but it will be less concentrated.

The current mild recession will be followed by slower inflation. In 1980, the rate of inflation at this time was 11 percent, while at the end of 1981 it was running about 7 to 8 percent. Most forecasters, including this one, believe that by the end of this year, inflation will be running somewhere in the neighborhood of 6 to 7 percent. On the average for this year, there will be a 40 percent reduction in the rate of inflation that we need to reach zero. This reduction is a big step for a very short period of time. In fact, it's better than most of us had hoped would be accomplished, and the slower inflation is beginning to show up in wage contracts, which means the reduction is beginning to become permanently built into the American economy. So, we're making progress. We have no reduction in government spending yet, only a lower growth rate, but we have a shift from nondefense to defense expenditures. When we allow for this shift from nondefense to defense, however one feels about it, we see that the programs which encourage consumption at the expense of investment are being cut back to a limited extent.

Large deficits foreseen

As we all know, a large deficit has been produced by giving a very big tax cut. In my estimates of the deficit for the next three fiscal years, 1982, 1983 and 1984, we will have a deficit of $360 billion. This figure allows for possible errors, failures to get additional budget cuts or for other things which I will discuss. The critical question which everyone is discussing now is whether the economy will be able to get through that $360 billion worth of deficits and come out on the other side looking like something that we remember from our youth. Well, we shall see.

When thinking about the deficit, we must avoid three common fallacies that you can read or hear about almost every day. The first of these is that the deficit will abort the recovery. This argument presumes that because we have the deficit, either all of the savings in the economy are going to be used by the government, or they're going to run up the rate of inflation. This situation is a possibility. As a result, if the government takes all the savings in the economy, real spending will be crowded out. If the private capital stock is squeezed out, the recovery will abort and we will just go into a long recession.

Of the more than thirty forecasts contained in my notes, only one predicts that there will be no recovery. Almost all forecasts with surprising uniformity, especially for economists, believe that there will be a recovery either in the second or third quarter of 1982. The forecasts predicting that the deficit is going to abort the recovery are wrong because the deficits we hear about, $300 or $350 billion, are computed on the assumption that there *will* be a recovery.

Tax hike not needed

The second fallacy is that we need a tax increase to reduce the squeeze put on private spending. Some proposals advocate dropping the third year of the president's (Kemp-Roth) tax cut. Other plans propose increases in taxes on liquor and tobacco. The fact is that tax increases do not prevent the crowding out of private spending, but rather, they assure it. After all, what better way to assure that the government gets the money than to give it to them in taxes, and the fallacy involved here is to look at those numbers and believe that there are some mirrors by which the government finances itself. The government finances itself differently than you and I. It taxes, while you and I can't tax. It prints money, while you and I unfortunately can't print money. The government can also sell its bonds, and when doing so it is giving promises to pay which have to be paid for out of future tax increases. So, the issue is not *whether* the government crowds out private spending, but *how* the government crowds out that private spending. Whether it does so is determined by either taxing today or selling some bonds and taxes tomorrow.

Those of us who wanted to see simultaneous cuts in government spending and taxes had a purpose of holding down public spending. The best way that I know to hold down public spending is to make people believe that the deficit is a big problem. We can't increase the deficit, and if the government is given more tax revenue so that the deficits will be smaller, we give them the opportunity to increase public spending and make the deficits bigger again.

The best, and maybe the only way to hold down the deficit, is to gear the economy up by using resources more efficiently and effectively than in the past and holding down those expenditures which are less effective and less efficient. We must accomplish this goal no matter how deeply one believes in the need for helping the poor, redistributing income or providing other benefits such as health care. Indeed, there are poor people, but we as a society need to decide that there is a limit to the amount that we can redistribute if we are to grow faster and increase the standard of living for ourselves and our children and grandchildren.

So in my opinion, increasing taxes is not the way to go. We need to stay where we are and find other ways to cut government spending.

"The best way that I know to hold down public spending is to make people believe that the deficit is a big problem."

The third problem in dealing with the deficit is the Wall Street fallacy, which says that interest rates will go to 20 or 25 percent. How do the rates get to such a level? To get those forecasts, which appear in the newspapers and would scare everyone to death, the proponents of this theory add up all future borrowing and all future lending. Then, they examine what interest rate will make the demand for borrowing and supply of lending meet, and say it may be as high as 20 or 25 percent. However, they never ask who would want to borrow if that were the interest rate. How many people can afford to borrow at 25 percent when the inflation rate is 9 percent, and can afford to pay what economists call a real rate of interest at 16 percent? There aren't going to be many, and the big mistake made in those forecasts is that they don't know what economists have learned for at least fifty years.

There is something called general equilibrium, which is just a short way of saying that when you get those demands and supplies to cross at 20 or 25 percent, you ask if you would get those demands and supplies if the rate were 25 percent. You must go back and refactor that in, and you come out with a belief, my belief, which says we could get the 20 and 25 percent, but we won't get there with an 8 or 9 percent inflation rate. The way we'll get the 20 or 25 percent is the same way we got the 17 percent or 18 percent. We'll get there with high rates of inflation and a sudden shift from a pro-inflationary to an anti-inflationary policy which sends the borrowers out scrambling to save their firms, but only for very short periods of time before interest rates come down as they have. In fact, we could get the 20 or 25 percent, but only by pumping up the economy by reversing the policies now in place, and by producing inflation rates up to 15 or 20 percent.

Interest floor seen

Does this situation mean that because there were these three fallacies, that I believe that the deficit is not important? Not at all. The deficit will keep the real rate of interest, the rate of interest after inflation, from falling back to the levels consistent with what we used to think of when the inflation rates were in the 6 to 7 percent range. For 1982, in my opinion, there is a virtual floor in the neighborhood of 12 percent to long-term rates of interest on government bonds and, therefore, on mortgages, municipal bonds and everything else. The interest floor means that in this recovery, interest-sensitive areas such as housing and durables will be weak. Less interest-sensitive areas, such as nondurables, electronics, chemicals and drugs, will be somewhat stronger. In this way, we will be cutting down on the amount of additional housing, durables and automobiles that consumers will be buying. They'll be saving more because interest rates, real interest rates, are high. Additional saving, as you'll see, will help us to finance the deficits, but it will hurt those sectors which are very interest-sensitive. I believe this pattern will be characteristic of the early years of the 1980s, which will be an era of recovery but with relatively high interest rates and high real rates of interest.

"In 1982, in my opinion, there is a virtual floor in the neighborhood of 12 percent to long-term rates of interest on government bonds and, therefore, on mortgages, municipal bonds and everything else . . . in this recovery, interest-sensitive areas such as housing and durables will be weak."

People who are dependent upon the interest markets for a boom in their sector will do better than they're doing at the moment, but not as well as they did in the booming years of housing, and the reason is not because the president's program or the program which people such as myself have advocated will be failing. The reason for improvement will be because the program is succeeding. The main fact of the 1970s was to invest in those things which are a hedge against inflation. Because of taxes and protection of various kinds, people wanted to invest in land; houses; gold, silver and platinum; odd objects; bric-a-brac; old bottles; and all kinds of things. The 1980s are going to be different than that if this program works. All those things which were great inflation hedges when inflation was going up will not be as attractive in an era when inflation is going down.

So, we will have two big problems. The political parts of the problems, more than any others, are likely to sink the program. The first area of difficulty is housing. The housing industry is very well organized with their friends in the savings and loan industry. They have enormous political influence on the government, and the industry will be complaining about the need to get more housing as we move into 1982, '83 and '84 because we'll see a slower housing recovery than in previous periods.

The second area of political difficulty will be the trade balance. Because we are going to run these big deficits, we will be selling more of our bonds overseas, and foreigners will be buying U.S. Government bonds. Overseas bond sales are one of the ways we will finance that $300 to $360 billion deficit over these years. When foreigners buy those bonds under a floating exchange rate, we'll have to import goods from them. This situation means that we're going to run a trade balance on merchandise trade during these years of a staggering $50 billion or more, which means $50 billion more imports than exports over these years.

This trade balance is going to create a huge cry that American industry is not competitive in the world, which will be a wrong interpretation of what's going on. Instead, the balance will be telling us that foreigners will be buying $15 to $20 billion of our bonds. To get them to buy these bonds, we have to buy their goods because that's where they get the money to buy the bonds. However, because that issue is loaded with political dynamite, it produces a major uncertainty whether the program will be derailed before it has a chance to finally do its work. I believe that the big problem with the deficit concerns these political implications, but that we will have a good recovery. However, the recovery will produce pressure on two very important industries, which are important for political as well as economic reasons. First are those industries which compete with foreign exports, and that's a large number of firms, and the second is the housing industry.

Why the large deficit?

Now, why do we have such a big deficit? Here are the numbers first for three years, which are my numbers. I have an $87 billion deficit, which with off-budget deficits, is now about $20 billion more, or about $107 billion which the government has to finance in fiscal 1982. We first came up with that number when we first forecast this recession, which was as early as last July when we thought that the deficit would run in the neighborhood of $100 billion. We have deficits of $136 billion for 1983 and $140 billion for 1984, for a total of $362 billion over this period, not counting off-budget items and other government programs that guarantee loans and do various other things. These numbers are just straight old government deficits as we used to think of them. Round the figure off to $360 billion, just give or take a little. In that area, $2 billion is not a big thing. So, when we talk of things such as increasing the excise tax on tobacco or something similar and raising a billion dollars, you might just as well whistle as worry about a billion dollars against $360 billion.

Now, how do we get there? Concerning the administration's July forecast, regardless of how it's spread from year to year, we should just deal with the three-year period that we will go through. The administration's July forecast for three years sees $65 billion in deficits over those three years. Remember, they said that they were going to balance the budget by 1984, but there was never any hope of that. Where does the additional $300 billion come from? Well, you add $142 billion for spending cuts which were promised but have not yet been made. The administration, in its original economic recovery program, advertised that it would cut the budget by so and so many amounts. They then said some of it would be cut this year, some of it next year and so on. The administration did announce what they were going to do this year and how it would carry through. Then they said well, see us later. Now, later is today, and they're talking about an additional $30 billion. However, if we take out of what the administration has promised to do, we have to add $142 billion over the three years for spending cuts which were not made. Then, we have to add another $150 to $155 billion for what was called the rosy scenario of super, strong recovery. The administration had forecast a very strong recovery and a slow decline in inflation. The inflation rate has come down faster than they predicted, but

the recovery won't be as strong as they predicted. Add a little $150 billion for that error. So you add up the $65 billion that they had, the $155 billion that they sort of misforecast, and the $142 billion for the spending cuts which they promised and haven't made, and you arrive at the $360 billion.

Policy and politics

Now, what needs to be done? How should we handle that deficit so that we can get these benefits which I think we have? First, we have to cut government spending more. This is 1982, and we have an election the first week of November. So you should think about this problem, not just as an economic situation, but as a problem in political economics. Because there is not an economic problem acted upon by the government, which is a policy problem, that doesn't have a political dimension. Policy is what they do, and politics is how they do it. So when you think about that $360 billion and what we're going to do, you want to play the game as if you were president.

The first thing you would be reminded of is that this is an election year. So you have three options. First, the Democrats (your opposition) are making a big to-do about the deficit, and you want to let them do that. Let them hook themselves as tight as they can to the fact that they are really worried about big deficits. Then, you offer them some tax increases, not big tax increases, but small increases in excise taxes and various other areas to cut the deficit. Then, you offer them some spending cuts in medicaid, medicare and housing, which are the programs the president has selected, and those spending cuts may take a substantial chunk out of that deficit for fiscal 1983 after the recession is over. We're going to talk about tax increases for fiscal '83 and spending cuts for fiscal '83 and beyond.

Then, you lie a little bit. You forecast a little stronger growth and a little slower rate of decline in inflation to make the deficits look a little smaller than perhaps the $360 billion that I've been talking about. However, your aim is to postpone the problem until 1983, after the election, to offer your opposition some opportunity to do something about those deficits, and to count on the fact that they won't do it. Then, you campaign against them on the grounds of needing a Congress which will do what needs to be done to get these deficits down. I expect this situation will be the political issue of the 1982 Congress.

If you take this view of what the politics and economics of the problem will be, then you can easily imagine that we will not get much done about those deficits in 1982. The president will win a few battles, lose a few battles and nearly everyone will punt and wait until 1983 to see what the voters say about the issue. The first year of the new Congress will either make progress on the issue or not, but we will have a big uncertainty this year, which will be reflected in the interest-rate markets. So, while I thought that there has been a floor on the interest rates, each time the president appears to be winning, long-term-interest-rate people feel a little better, and long-term rates may come down a little. Then, when the president seems to be losing or the Fed loses control of the money stock, interest rates will go back up again. So, we can expect a nervous market, with long-term interest rates in that range from a bottom around 12 percent on long-term treasury bonds to a top of around 14 percent or more on those same bonds. So we're going to be fluctuating around, which is not a climate conducive to a very strong recovery as I mentioned when discussing housing.

How serious is this problem of the big deficits when we get away from the political side of things? Let's look at the economics. Remember that most of this large deficit is due to very big tax cuts, but we are not worse off by having tax cuts. It is important that we continue along this path; keep the deficit from rising continuously, enclose it by cutting the growth of government spending and not by raising taxes.

However, there is still another sense in which we're better off because we got those tax rates. We have high interest rates, so the tax cut with the high interest rates was going

". . . there is not an economic problem acted upon by the government, which is a policy program, that doesn't have a political dimension."

into savings. If you ask how are we going to finance this $360 billion over three years, one part of that answer is that we're going to save at a higher rate, and some of that saving will go into banks and financial institutions, money market funds and all kinds of other devices. In turn, government bonds will be bought for us with our savings. At the same time, we will have productivity growth.

To put the entire situation into somewhat better perspective, it is good to compare the deficits we're going to have over the next three years to something which is similar. For example, $360 billion sounds like a big number, but so does 50 cents for a package of candy which we used to think as being worth a nickel. So, you have to put those numbers back into some comparison and the simplest comparison, of the many we could use, is to compare these three years to some other three years and determine how much of our saving will be absorbed by the government deficit.

Can we save?

How much will people save as a result of these tax cuts? How much additional saving would there be and how will that proportion of the deficit to saving compare to some other period in which we had big deficits? The easiest, most comparable period is 1975 to 1978 when we ran a deficit which absorbed 70 percent of the personal saving, not the business saving, but the household saving which people put aside or paid back. The deficit took 70 percent of the saving during that period, and if we make a very cautious assumption about how the tax cuts will affect saving, increase it up to about 6.5 percent over this period, then we will get back to about 70 percent. So, a cautious estimate says it's not going to be great and it's not going to be easy, but it's going to be manageable. We will have high interest rates, and as I said, those high real interest rates are going to hurt the housing industry. We will have a balance of trade problem as in the 1970s, but we will manage to come through this period with more investment because a big part of the tax cut goes to corporations that will be making profits once the economy recovers. The difference between pre-tax and after-tax profits is going to look much different now than it did in the period during the 1970s of high tax rates on businesses. The financing of corporations will come essentially through retained earnings, through each corporation buying each other's assets or buying up the other corporation. In this manner, we will be able to finance the deficit with a little help from our friends abroad.

The Fed's money policy

There's a third problem which we need to talk about briefly, and that is the problem of what should be done about money. We've talked so much about deficits and about the financing of deficits, but the one thing we need to avoid is financing the deficit by simply running the printing presses. While I don't want to be a Pollyanna about this subject, there is one good thing about the large deficit and that is it's going to be pretty hard for the Federal Reserve to finance that deficit.

I believe that as a result of the efforts which people such as myself and others have made over the years, we have convinced the markets to pay attention to the rate of money growth. In fact, we've convinced them so well that they pay more attention to what happens from week to week than I ever did or that I believe is sensible. However, one effect of having them pay such close attention is that every time the money growth rate goes up, the bond market falls apart because they say that the Fed is inflating. Then, the dollar begins to decline, which puts a discipline on the Fed. There's a limit to what they can do. I don't know if the Fed will come in on its target; that's a great uncertainty. However, I believe that discipline will make it difficult for the Fed to do anything but a mild amount of financing of that deficit, which means it will have to be financed out of private saving, personal saving and foreign borrowing. If this scenario is correct, we're on our way to an era of lower inflation.

Optimism with risk

My forecast in the market, believing all these factors to be manageable but not easy, will be that from fourth quarter 1981 to fourth quarter 1982, we will have 7 percent inflation and possibly less, accompanied by 2 to 3 per-

cent real growth from now to the end of 1982. This forecast means that the 1982 elections will be fought in a period when the inflation rate is running about 7 percent, down from the 11 to 12 percent when President Reagan took office; when we will be in a recovery; and when we will have high unemployment, but it won't be rising anymore. The president and his friends then will be able to run on a program which says that we've had eighteen months; we've cut the inflation rate almost in half; sure we've done a little damage, but look what we have been able to do in eighteen months; we've cut your taxes; we started this recovery moving; and we're moving to an era of better times.

This program may not sweep the public off their feet but it won't exactly be a disaster. There are risks and great uncertainties with it, and there are three or four that we ought to talk about. One is that we could have a bond market panic. The people of Wall Street could feed so much on their fears as they did in the last part of the summer and the early fall of last year, that they will push the interest rates up so high that Congress will repeal part of the program or do something else foolish.

We could have a too-high rate of money growth because of the risk that the volatility will continue and the Fed will try to control interest rates; that there will be a surge in interest rates. We will end the year with another period when we have to slow the rate of money growth to slow the rate of inflation, and we will run through another recession and all these good things that I've been discussing and that we've been wanting for a long time will be disappearing. I think that is a risk.

The third risk is that perhaps there will be a breakup of the political consensus, essentially the consensus of taxpayers against tax receivers, which has made this policy possible. Housing starts running 1.3 to 1.4 million in 1982 with an international trade deficit on merchandise account of $50 billion will put together a political coalition representing what people are telling their congressmen, which says that they have to stop this stuff. The people say that we just can't afford it, maybe it all will work out in time but not in time for the 1982 election, so Congress better do something about it.

I think that these are great risks, and it would be a mistake to believe that these risks will be easy or that they will be contained, but we are in the second year of the turnaround. It's in many ways the toughest year. It's easy for people to agree that you need to do something when the problems of inflation are fresh in their minds. It's harder for them to stay with it, which is why we've experienced this miserable, fifteen-year record of alternating periods of high inflation and lower inflation, but on an upward trend; and these alternating periods of high unemployment or lower unemployment, but also on a rising trend; and why we have the program in the first place.

". . . the one thing we need to avoid is financing the deficit by simply running the printing presses . . . there is one good thing about the large deficit and that is it's going to be pretty hard for the Federal Reserve to finance that deficit."

Whether we're going to turn it around politically will be decided in 1982. I don't believe anyone can give a definite answer to that question. The program will work. The economics of the program are clear. Very few economists would disagree with the argument that says to slow inflation, you have to cut money growth. There are none I know who would disagree with the idea that if we want to get more investment, we have to save more, either at home or abroad or both, and that the only way to get more investment is to raise the after-tax return to capital. People will disagree whether you should do a little more this year or a little less that year. They'll disagree violently over who should or should not pay for the program and about whether the budget should be cut more in defense or somewhere else. However, these are social judgments about which economists are no better and perhaps no worse than anyone else.

In the broad outline, the program says slow inflation, slow money growth, more efficient use of resources, a cut in the size of government, more saving and investment and a raise in the after-tax returns to saving and investment. There's no dispute about those things in the economics profession and, indeed, that is the program we have. If we give it a chance, I think it's going to work.

Examining the Nation's Economy for 1982

Lawrence Chimerine, Ph.D.
Chairman and Chief Economist
Chase Econometrics

Lawrence Chimerine has overall responsibility for customer relations and product development and content for Chase Econometrics, a subsidiary of the Chase Manhattan Bank. He also supervises the U.S. Macroeconomic Service, including model design and development, monitoring of model performance and preparation of monthly macroeconomic forecasts. He is a member of the Business Research Advisory Council, the Bureau of Labor Statistics, the Economic Policy Board of the U.S. Department of Commerce, and the Committee on Manpower and Employment. He holds a B.S. from Brooklyn College and a Ph.D. in Economics from Brown University.

The economy is quite poor. Most of you probably are aware of how bad it is outside of this area. I understand it is now starting to flatten out and weaken a little bit even in Florida.

There are a number of subjects I'd like to discuss. First, I think you're all obviously interested in the current recession. Why has it happened? How long will it last? Secondly, what will happen after it ends? It will end eventually, and I think pretty soon. The key question now is not whether GNP will fall by 2 percent or 2.3 percent during the recession, but the real issue is whether there's any chance, for the first time in a number of years, of a sustained, continuous economic expansion once the recession ends. I'd like to address that issue. Thirdly, what is the role of the administration's program in the outlook for the economy and as part of that subject, the whole issue of budget deficits, interest rates and inflation?

A second factor in economic stagnation is what has happened to interest rates during this period. In my judgment, the inflation that sapped away purchasing power, plus the Fed's efforts to stop that inflation by slowing money growth, particularly in the last twelve to eighteen months, and combined with other factors, has led to the highest real interest rates since World War II. It is no secret to anybody what absolute devastation these rates have done to some very basic interest-rate-sensitive industries in the United States, including housing and the agricultural sectors. At least until about eight or nine months ago, if not for rising exports and increased oil drilling and other energy-related activity which has risen sharply during this period, we probably would have been in constant recession ever since 1978.

The recession's beginnings

How the process began depends on who you ask. Allan Meltzer would say that the inflation which accelerated during the seventies was primarily the result of excessive money growth. In my judgment, the oil shock played a big role, and a number of elements which have combined to stop the growth in productivity have been a major factor. Whichever theory you take, inflation accelerated, consumer purchasing power stagnated, and this entire scenario developed.

In addition to a stagnant economy, we've had a volatile, interest-rate environment. The economy is declining now in response to extremely high interest rates, particularly high long-term rates, in the spring and summer of last year. When you look at the effect of interest rates on the economy, we can no longer look only at housing starts.

Anybody who looks at the numbers would have to conclude that in the last year or so

there has been a dramatic erosion in the competitive position of U.S. companies in the world markets, caused primarily by the sharp increase in the U.S. dollar relative to most currencies. In my view, this situation was the result of extremely high interest rates in the United States. Declining exports and increasing imports in many industries are now contributing to the weakness in the economy.

Why the recession?

We have an opinion of the current economic environment that may or may not be different than yours. In my own view, we have been in a recession in the United States since late 1978. We've had a lot of zigging and zagging, but fundamentally, the United States economy has been stagnant or in recession now for a period of more than three years. I call it an up-and-down, no-growth environment that began at the end of 1978. Even before the economy began to weaken in July or August, most measures of macroeconomic performance show that the national economy was operating at a level no higher than three years earlier in mid- or late 1978.

Economic stagnation has hit the United States, and without going through a long discussion of history, I think there are two major factors that led us into this period. First, unlike the prior history of the United States, the typical American family in recent years has not continued to experience the improvement in their financial well-being that we had become accustomed to previously in this country. Real incomes or household purchasing power would probably be the best measure to use. I think most of you know that the typical American family's purchasing power is roughly now at the same level as it was back in 1974 and 1975. Compare that with consistent 2.5 or 3 percent-a-year growth year after year which characterized this country prior to the mid-1970s. In my judgment, the dominant factor which ultimately generated the economic stagnation, is that after cutting our savings dramatically, after borrowing as much as we could to sustain higher spending, after sending our spouses out to work to generate a second income to supplement our spending capability and so on, we reached a point about three years ago where most families had just about run out of options. They no longer had the capability to continue increasing their living standards, and their purchasing power wasn't growing. They already were up to the ceiling on their credit cards. We already had refinanced our mortgages and cut our savings to the bone.

Thirdly, the problem with many state and local governments, already besieged by a

number of unfavorable factors, has been worsened by what has happened to the municipal bond market. These governments either have been priced out of the market or they don't want to pay these rates. As a result, they've been forced to cut back additionally on some of their spending programs, thereby adding to weakness in the economy. Obviously, investment is weakening both in direct and indirect response to high interest rates.

An additional factor in the recession is that high interest rates have depressed housing prices and depressed the prices of financial assets so dramatically that the wealth position, or the value of prior savings or accumulated savings, for most families has been squeezed sharply. Many families are very concerned, particularly those who have most of their savings tied up in the value of their home. Many people appear to be trying to rebuild their savings by retrenching on spending and that is also contributing to the recession.

"(The recession) will end eventually, and I think pretty soon . . . the real issue is whether there's any chance . . . of a sustained, continuous expansion once the recession ends."

1974-75 revisited?

The economy dropped like a rock in the last three or four months and a number of our clients got very frightened. However, this is not another 1974-75 when the economy dropped very sharply over a long period of time. Because of stagnation in recent years, when this decline started the economy was already weak and unemployment was already very high. In terms of how depressed the economy will be, it is similar to 1974-75. The magnitude of the drop won't be as sharp for a number of reasons, but I think two are most significant. It is very difficult to get a very severe recession without either a large inventory correction or without a sizable retrenchment by consumers.

There has been some increase in inventories in recent months, primarily because a lot of companies either did not foresee the decline in their sales or did not respond quickly enough in cutting back production after sales began to weaken earlier last year. Consequently, companies are now cutting the inventories that developed or built up during that period. However, this situation is different than 1974-75 because prior to that recession there was a massive buildup in inventories throughout the United States on a relatively voluntary basis, predominantly in raw materials and commodities. There was a massive shortage psychology and everybody wanted to hold commodities as a hedge against future shortages. Some were speculating on price. Those inventories had to be liquidated, which was a factor that worsened the recession. This time it won't be so dramatic. Some of the liquidation process has already occurred during the past two months.

With respect to consumer spending, if you exempt autos and housing-related durables such as furniture and appliances, consumer spending is holding up reasonably well. What we have is a cross-current of pluses and minuses.

The minuses are obvious. Number one is the squeeze on real wealth that we discussed earlier. Secondly, high unemployment scares people. Many people tend to retrench because they're not sure if they're going to keep their jobs much longer. The savings incentives might be leading to an effort to increase savings. Frequently, we buy lots of expensive durables when turning over our homes, but people are not turning over their homes. All these factors are holding down consumer spending.

On the other hand, there are some relatively favorable factors. First, inflation is moderating, maybe in part because of slow growth in money. I think there are other factors as well. If you compare the current situation with 1974-75 and also the spring of 1980, this time we didn't have an oil shock, which dramatically squeezed real income. Now, for the first time in five or six years, we are experiencing the first increases in our purchasing power because inflation has moderated, particularly in the areas of oil and food. We've received some small tax cuts, which are holding up consumer spending to a degree. Secondly, the household debt burden is more favorable than it has been for a number of years. Thirdly, I think interest rates are coming down a little bit,

which psychologically might be having some favorable effect on pent-up demand.

A mixed forecast

It seems to me that the pluses and the minuses are neutralizing. Consumer spending is edging down slightly but not enough to produce the kind of sharp recession that I think some people fear now. My best guess is that the recession will end within a couple of months. Peak to trough, the GNP will be down about 2 percent, somewhat milder than many others are saying. Then, some pickup in the economy will begin within the next couple of months, and will come from a number of factors.

First, policy during 1981 was tremendously restrictive, in my judgment, and is contributing in a sense to the recession now. Even in the administration's program until now, the budget cuts have significantly outweighed the tax cuts.

Secondly, it's hard for me to believe that M_1B growth will be only 1.5 or 2 percent again during 1982. I don't think the Fed will open up the spigots to 10 percent, but 5 percent or so is a more realistic guess than what happened during 1981.

Thirdly, inflation will continue to moderate. Even productivity is edging up despite the poor state of the economic environment. We're looking at inflation numbers probably around 7 or 7.5 percent during this year, the best by far in four or five years. I think you will see a significant increase in household purchasing power, particularly when that's combined with the tax cuts. Interest rates have come down a little, and we now seem to be seeing the bottom of interest-rate-sensitive sector activity. I don't think you're going to see a phenomenal rate of increase in activity in these sectors, but at least the adverse effect on the economy seems to be nearing an end. The big buildup in military spending is only beginning now, and will start very strongly during the spring of this year.

Consumer spending a key

So, there are a number of factors that are likely to produce at least some pickup in the economy during the course of 1982. However, there are two key questions in my judgment. First, how fast will the pickup be? Despite the emphasis on savings, the answer depends completely on how quickly consumer spending picks up. In my judgment, there will be no general economic recovery nor any big pickup in investment unless we get some increase in consumer spending and in the interest-rate-sensitive industries such as housing. Because if you look carefully at the investment incentives, such as accelerated depreciation, based on our calculations they will increase the expected return on new investment by anywhere between 2.5 and 3.5 percent depending on the particular investment. These figures are swamped by the direct effect of high interest rates on the cost of capital and the indirect effect of high rates on holding down economic activity, and causing widespread significant excess capacity and a sharp decline in the markets. Nobody makes investments unless activity in the end market will be good enough to justify it. We have seen this situation in recent months where investment activity has already tailed off despite the investment incentives.

"For the first time in five or six years, we are experiencing the first increases in purchasing power because inflation has moderated, particularly in oil and food."

The ideal solution to me would be to spend some of these tax cuts, or real income gains, and save some. My own guess is that is what will happen. The consumer debt position is more favorable, and people have pent-up demand. It is unrealistic to think that it will all be saved despite IRAs and All-Savers Certificates, which don't really increase the expected return on savings that much to begin with.

Over the next twelve months or so, a recovery will average somewhere in the 4 percent range. It won't be stronger than that because exports will stay weak, because the housing pickup will be very slow, because state and local government spending will still be cut, and because there may be some tax increases. So, there are enough factors elsewhere offsetting the strength to keep the recovery fairly modest.

Can the recovery last?

The second question: how long and how durable will this recovery be? In my judgment, the answer depends completely on interest rates. If steps are not taken to reduce what I see as extremely large deficits, there is the significant risk that rates will bounce up again sometime in 1982 or early 1983; especially long-term rates, which haven't come down much to begin with. High rates will, at a minimum, slow down the recovery process and maybe even abort it completely depending on how high the rates go.

I believe strongly in the administration's program, at least from the standpoint of direction. Every major direction is the right one. We have needed investment incentives for years, and I have been active in pushing for accelerated depreciation since the mid-1970s. We need some personal tax cuts, and everyone agrees we have needed some budget cuts for a long time. I also think everyone might agree that at least some increase in military spending might be necessary, even though I'm not a national security expert and don't know how much is or is not necessary. My concern is that, while the directions are right, the program is fundamentally imbalanced.

"How long and how durable will this recovery be? In my judgment, the answer depends completely on interest rates."

If the program is allowed to stand without any additional changes, and if the numbers leaked by OMB in the last couple of weeks are correct, even in an environment of faster economic growth we will be looking at deficits in the $150 billion-per-year range for as far as we can see. The deficit will be somewhere around 4 percent of GNP.

Several features of the administration's tax cut will begin to result in sizable revenue losses starting in 1985. Deficits will continue to rise even in an environment where real GNP grows 4 percent per year. One reason is that it is a big mistake, particularly if there are no sizable new budget cuts, to think that the budget has been cut, despite the success of the administration last summer. Most of the budget cuts will be offset by increases in military spending and increases in interest that result from large deficits and high interest rates. The government's share of GNP will come down only slightly at best during the next several years even with a potential growing economy. At the same time, we have cut taxes to such an extent that by 1985, using the administration's estimates, the static revenue loss as a result of the tax cuts will be $200 billion per year. Using more realistic estimates, the loss will be more than $250 billion per year. When you consider the military buildup and its understated cost, and all the interest expense, the entitlement programs, and the understated revenue loss in the tax cuts, these $150 billion-per-year estimates are in the right range. If the economy were to stay stagnant, we would be looking at deficits of more than $200 billion per year.

Interest rate pressures

I am worried because in light of what the Fed is now doing, even with 5 percent money growth and allowing for some increases in savings, it will not be possible to simultaneously finance those deficits and the increase in private credit demands that will inevitably occur if the economy picks up at the same time. Consequently, there is the very strong risk of new upward pressure on interest rates. Despite everything that has been favorable in the last several months—a recession, inventory cutting which is slowing corporate demand for credit to some extent, and the Fed easing up at least by putting more reserves into the system during the fall—long-term rates have come down by a grand total of about 1 or 1.5 percent, to 15 or 16 percent, whichever rate you take. In my judgment, if the program is scaled back, we will still have enormous fiscal stimulus and still have incentives for savings and investment. It won't violate the supply-side part of the program particularly since in today's environment, a lot of additional stimulus is simply going to push up interest rates, instead of pushing up economic activity, as long as the Fed controls money tightly.

How different this period is than what we've had historically. First, we never had rising deficits during economic recoveries before. We are talking about a deficit in 1983

which will be at least $50 billion higher than this year's even if the economy picks up, which would hold down the deficit significantly. Secondly, the Fed historically has been much more accommodative during periods such as we have now than they are today, and admittedly I don't subscribe to the view that tighter money ultimately brings down interest rates. In my judgment, it works the opposite way, at least until we go through the five years or longer when tighter money will bring down inflation enough to have that favorable effect on interest rates. In the short run, the impact is in the other direction, so I feel strongly—why take the risk? We can always go back and enact more tax cuts later if conditions permit.

What are the solutions?

The ideal solution, in addition to budget cuts, must be focused on entitlements and defense. In addition to these two categories, which won't be enough, the best solution would be to delay or cancel, contingent on a budget-deficit projection, the third installment of the personal tax cut now scheduled for July, 1983. I prefer this solution for a number of reasons over the little tax increases that will be necessary otherwise. First, there will be a big battle over each of the increases. Secondly, these are tax increases, while the other solution is just taking away a tax cut that's now scheduled. Thirdly, most of these excise tax increases will get into the CPI the way we calculate it. In my judgment, one of the factors perpetuating inflation in the United States is the increased use of indexing throughout the system. In fact, it's probably the dominant reason why the federal budget is out of control. If you look at the last four or five years, there haven't been many new major spending programs. We didn't get national health insurance or welfare reform. What has pushed up the cost of government primarily has been the increased indexing to a faulty index of most of the entitlement programs. This situation must be addressed. Of course, in the private sector we have the wage-price spiral perpetuated because of it. Factors such as excise tax increases will show up in the CPI, which will push up the cost of government entitlement programs, which in turn will push up some wage increases.

My suggestion is to reduce the risk of a sharp rebound in interest rates and, therefore, increase the potential for a sustained economic recovery; scale down or eliminate the third installment of the tax cut; and have $30 or $40 billion per year in budget cuts. I think the Fed must be a little more generous; somewhere in the 5 or 6 percent range for money growth, because 1 or 2 percent is not adequate. A combination of these three factors will generate or help contribute to a sustained economic advance during the next several years.

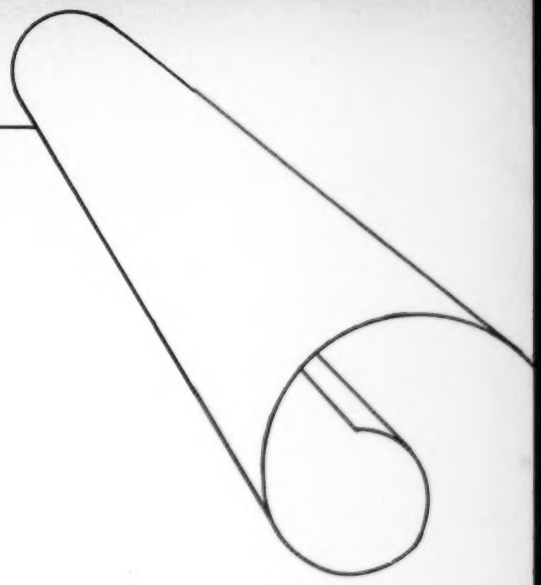
Finally, one of the things I strongly agree with are some of the savings incentives that have been implemented, particularly those which I think are most effective on a bang-for-the-buck basis. I do not believe that large personal tax cuts will generate lots of additional savings. Certainly relative to the adverse effect it has on the deficit, we just absorb those savings.

For example, I think IRAs should be spread by making them a percentage of income. You're allowed to contribute 3, 5, 6 percent of your income into an IRA, thereby allowing someone at a higher income level to contribute more than $2,000. Secondly, it avoids the problem that in five or ten years from now, $2,000 isn't going to be much of a contribution, assuming we have some inflation between now and then. Thirdly, it means that the marginal tax rate for any income that you save, assuming it's within that X percent limit, becomes zero. This is a way to generate more savings, instead of the third installment of the personal tax cut which will result in a revenue loss of $40 billion per year.

In my view, we cannot afford the tax cut, given the outlook for the deficit. Basically, if you want to double the military budget in three or four years, you have to pay for it. Unless we can pay for it with other budget cuts, and I don't think we can completely, the tax cuts have been too large.

"The best solution would be to delay or cancel . . . the third installment of the personal tax cut now scheduled for July, 1983."

What's Ahead for Florida's Financial Industry?



A Current Perspective

Joel R. Wells, Jr.
President
Sun Banks of Florida, Inc.

Joel R. Wells, Jr., is president of Sun Banks of Florida, Inc., in Orlando. He received both his B.S. and law degrees from the University of Florida. The Troy, Alabama native was one of the principal organizers of Sun Banks and was the company's principal attorney until 1972. In 1976, Wells was named president of the company and became chief executive officer in 1982. He is also a director of the Florida Chamber of Commerce.

About two and a half years ago, I was given the opportunity to speak in Tallahassee before the Florida Economics Club. It's covered by the capital press corps so whatever is said there is usually publicized. I was given the opportunity at that time to choose my subject, and the subject I selected was *The Battle Over Banking and its Implications for Florida.* The point I tried to make at that time, I'm afraid somewhat unsuccessfully, was that the coming battle over banking was not just an argument about interstate banking or an argument between bankers, but had some broad implications for businessmen in general, and particularly those engaged in business in Florida because the state was going to be one of the principal battlegrounds. However, the fact that the Council of 100 has chosen to conclude this 1982 economic seminar by addressing this subject I think is an indication that in the intervening two and a half years, many businessmen now are interested.

To understand what is happening, you must have some appreciation of the structure of banking in the United States for the last fifty years. Essentially, the structure, based upon regulation adopted at that time of the great depression, has been one of insured depositories. Those depositories have been banks, savings banks and savings and loan associations, which are grounded on the concept of encouraging the public to have confidence in leaving money in those depositories. The structure has been heavily regulated, with the key elements being a prohibition of the payment of interest on demand deposits, and a limit on competition and time deposits. A further key element has been geographic restraints on areas in which banks are permitted to operate. Finally, there have been strict limitations on banks and bank holding companies with respect to so-called nonbank activities.

All of this structure now is in the process of being repealed except for the concept of deposit insurance. However, equally as significant as the legislative and regulatory reforms, is the blurring or obliteration of the concept of what a bank is, which has been based upon the exclusive franchise of a bank. In this context, I'm not distinguishing between banks and savings banks and savings and loan associations as a depository. It was upon the basis of that exclusive franchise that banks not only have been regulated, but that their nonbank activities have been restricted. The obliteration of that concept is occurring now either by action or inaction evolving around the concept of what a deposit is. I think that the public has a better understanding of what a deposit is than do the regulators or the legislators, and the public is now accepting the concept of various types of nonbank depositories as depository instrumentalities for their money. This new acceptance is a fundamental structural change that has broad implications for all types of business, and if

not reversed, is going to lead within this next decade to a total revolution in the financial services business.

There is good news and bad news. The good news is that we'll have companies such as Sears furnishing financial services, including the acceptance of deposits, that have not been in that business. The bad news is that all of these organizations furnishing financial services to you in the future are going to be bigger, and fewer of them will be what you regard today as banks and savings and loan associations.

The question that I would suggest for Florida, as I did two-and-a-half years ago, is do we want to see Florida as a branch office state? Do we believe that Florida will achieve its destiny over the next twenty years if we're much more economically dependent upon forces located outside of Florida than we are today? In my speech two-and-a-half years ago, I referred to this development as a form of economic colonialism. I even used the term "carpetbag banking," and this is what we stand on the threshold of. A number of us would not like to see that happen. We don't think it's in the best interest of Florida, but we have our responsibility to our shareholders.

Insurance

W. Ashley Verlander
President
American Heritage
Life Insurance Company

W. Ashley Verlander is president of the Jacksonville-based American Heritage Life Insurance Company. He is a graduate of Georgia Tech University, and received an outstanding alumnus award from the university's Industrial Management College. The Virginia native founded American Heritage Life in 1956. Verlander is a past president of the Jacksonville Area Chamber of Commerce, the Gator Bowl Association, the Florida Association of Insurance Companies and the Florida Chamber of Commerce. He currently serves on the board of directors of the Florida Council of 100.

For years, the life insurance industry has been a rather comfortable industry. We had conservative rules of accounting, under which the established companies did very well. We were the recipients of mortality gains as the mortality tables followed true mortality a number of years, and we also were the recipients of excess interest on reserves. In the last few years, most of the profits created by life insurance companies have been from excess interest. We will sell policies today at true mortality. In those days the competition also wasn't as keen; banks were banks and investment banking houses were investment banking houses; American Express sold travelers' checks; Sears sold jeans and shirts; however, this situation has changed tremendously in the last few years.

Today, we are in competition with banks selling annuities, with investment houses and American Express selling insurance and annuities, with retail stores such as J.C. Penney and Sears selling insurance, and with Merrill Lynch selling all financial services regardless of so-called regulations.

There's an entirely different market out there for us. You have already seen it in your pensions, where we will guarantee you X percent on your pension plan for five to ten years. John Hancock and a few of the giants started it at 11.75 percent a few years ago, and everybody thought they were crazy. Since then, they have accumulated billions of dollars sitting with five, four, three or two years to run, at 10.75, 11 and 11.25 percent. It has been a great program for them.

The old life policy was a fine-tuned combination of three things that you were buying. You bought life insurance protection; a tax-free cash value buildup in there, and tax-free was a dream everywhere except there; and you bought retirement benefits. We were the only financial institutions in America offering all three. These items now are being pushed vigorously by nonlife competitors.

We are all in the financial market whether we merged or not. Life insurance management over the past thirty years has been able to look to our life investment department when times were tough and inflation was running. As inflation ran, our yield ran with it, so the excess interest came in and made our job a little less difficult. That day is over. Today, the policyholders will receive that excess interest, which means that mergers will become more and more attractive to people, particularly the smaller companies, who thought they were in the life insurance business forever.

Marketing has changed tremendously. The life insurance agency system was the finest group of intangible product salesmen in history. The highly qualified salesmen were paid well for their services, and they made a good living. Now, with the universal life and

other types of products, and with lower commissions, salesmen must make more sales and sell more simplified products. You will not have the great financial service you once had, but you will get the coverages.

As government regulations continue to fade away, the entire financial industry of America will become more and more unregulated. The lines of separation of each of us will begin to fade away, and we will all be in each other's business. So far, major mergers between large, life insurance companies and large commercial banks have been stopped by Justice Department action. I don't know how long it will be before we will be able to merge life companies with banks. I don't see a great problem with an overall holding company, and each of the companies under it answering to their own regulators. I think we will see this situation before I leave the scene in the life insurance business.

Other things that will affect the products you buy, including life insurance products, will be not only the accumulation of different companies selling to you, but also their high interest rates. Back in the sixties, interest rates were low. All we had to do in the life insurance business was guarantee you about 4 or 4.5 percent on your increasing cash value and you had a great product; tax-free buildup long before anybody thought of ours or Keogh plans.

For your life insurance policy that you buy today to be competitive, we can no longer offer you 4 and 5 percent. We must offer you almost-current interest rates, which is good news and bad news. For us, the good news is that it eliminates the unforecastable run of policy loans where people are borrowing at 5.8 percent to invest somewhere else at higher rates. The phaseout of the Fed Regulation "Q" will make interest rates competitive on everything, whether it's savings accounts, a NOW program or life insurance, because when the banks are unlimited in their ability to pay rent for your money, we'll all have to compete in that rent market.

These factors will create a merger down the road between the so-called untouchables-the successful life companies and the commercial banks, investment banking houses or even Sears. Today's environment means that life companies must have more capable and efficient management, and must be better able to control expenses and better use their computers to reduce costs, or they cannot compete with Merrill Lynch, which supposedly has the finest computerized system of any financial institution. I think that you will see holding companies, which will be created probably for the benefit of the shareholders. The capable managements will survive and those not so capable will go to work elsewhere.

Commercial Banking

Howard W. Nix, Jr.
President
Landmark Union Trust Bank
of St. Petersburg

Howard W. Nix is president of Landmark Union Trust Bank of St. Petersburg, as well as senior vice-president and a director of the Landmark Banking Corporation of Fort Lauderdale. He currently serves as president-elect of the St. Petersburg area Chamber of Commerce and chairs the downtown improvement corporation for that area. Nix is a member of the board of directors of both the Florida Council of 100 and the St. Petersburg Committee of 100.

On the retail side of the commercial banking industry, I think you will see something happen in the next ten years much more dramatically than it has in the last ten, and that is the very pervasive use of a super plastic card. I believe that the beginnings of Visa, Mastercharge, the debit card, the access card to a terminal and the American Express card are going to revolutionize the manner in which the retail customer does his banking business or his deposit and checking business. You will see a lot of checks disappear. This situation will change by a transaction telephone in your home, by an interactive cable on your television set or by a prearranged agreement with the telephone company, the power company or Sears. Just send the bank a computer tape once a month, take the money out of my checking account and credit it to yours.

I think that more of our customers are going to need, demand and will receive a line of credit, and that's one thing the credit card does. The debit card does the same thing though when you start talking about overdrafts—pre-approved overdrafts. We will see a big reduction in the amount of paperwork handled in the financial industry.

Stop and consider when big companies start buying from each other, and consider this process that we go through now of sending out bills and then mailing checks. Stop and consider the change that can take place when we make transactions with satellites or computer tapes. The telephone line has wired this country, but we're about to unwire it a little bit with satellites that are launched into space by the space shuttle.

I also think banks will have to change dramatically the manner in which they handle the commercial account. We will have to become much more sophisticated, and be much more specialized in the manner in which we handle construction loans, land development loans, and particularly, commercial term loans.

Processing paper is getting too expensive, and I don't think we have the alternative of raising our service charges much higher than they are. We will have to cut our expenses rather than raise our charges.

This year, you may see a change in the law, permitting commercial bankers and savings and loan bankers to work together, which will be an interesting phenomenon. The successful savings and loans will buy some banks. However, the bank holding companies will also buy some savings and loans as soon as the law permits it. My personal view is that the commercial bankers and the commercial bank holding companies will be the larger of the surviving institutions. The profit motive alone is going to lead the savings and loan industry into a change in the manner in which it has done business, particularly from an ownership standpoint.

Of course, one of the things that makes this situation fun is the competitive aspect. Grocery stores cash more checks than we do today but we can't sell groceries. You can expand that example into all the other areas involving competition to financial institutions today. I hope that we in the business community have enough influence, and I hope our elected officials have enough foresight, to recognize that deregulation is necessary and to let people who want to deliver financial services compete on an even playing field. The next ten years will be kind of fun.

Savings and Loans

Raleigh Greene
Chairman and President

Florida Federal Savings
and Loan Association

Raleigh Greene is chairman and president of Florida Federal Savings and Loan Association. He became president in 1968 and chairman in 1975. Greene has served as chairman of the Florida Savings and Loan League, and is a past president of the National Savings and Loan League. He has also served as president and chairman of the alumni association of his alma mater, the University of Florida. Greene currently is a member of the board of directors of the University of Florida Foundation, and is a charter member and past chairman of the Florida Council of 100.

In my judgment, savings and loans ceased to exist in 1978. They still bear that name but no longer are they savings and loans. Joel Wells made reference to a fifty-year history of classic banking and he grouped commercial banks, mutual savings banks and savings and loans together and quite properly so, but each in a specialized field which no longer exists. I would agree that banks will be acquiring savings and loans and vice versa. I also foresee the day in the not too distant future when savings and loans will all be capital stock companies no longer in the mutual form.

We can look forward to a single regulator, probably the Federal Reserve and the comptroller of the currency, because there will be no need for a Federal Home Loan Bank Board, a Credit Union Administration, an FHA or other regulatory bodies. All regulation will come under a single umbrella, and each institution will be doing precisely what every other institution is doing, provided they have the talent within the financial structure that they choose as their delivery service of financial services.

The sole constant in the financial markets will be change, and the only thing we will see are rates that seek market levels. Therefore, I would suggest to those in the building business, the banks, and the insurance companies that the savings and loans, in my view, will be in your business as you will be in ours, through various media (service corporations, direct ownership in development, construction, or financing one's own product as opposed to the pure retail-side banking). So, the change will be dramatic, and also extremely painful.

In terms of savings and loans as opposed to commercial banks, or in terms of mutual savings banks as opposed to commercial banks, by the end of this decade there will probably be half as many as exist today. Before this

year is out, there will probably be 300 or more savings and loans merging in one manner or the other, either on a voluntary basis or through action of the federal regulator. The savings and loan industry as we have known it is in deep trouble, and you read that in the press daily.

I'm afraid that interstate banking is definitely here. The savings and loans will have brought about interstate banking much faster than any legislative body has ever found a way of doing. The seventh California institution has already taken over a Florida savings and loan. Most of the major supervisory cases have been in the extreme southeastern part of the state. In Florida where there had been 131 institutions, by the end of this year there will be approximately 65 to 70. This reduction reflects how dramatic the coming change will be. It will be, for this industry at least, survival of the fittest.

What is happening on a regulatory basis to protect the assets of the insurance corporation, whether it's the F.D.I.C. with the mutual savings banks in New York or the savings and loans particularly in Florida, New York, Texas and Illinois where the major problems exist, is that they are using the Florida market as the attraction to give assistance to troubled institutions elsewhere and holding out the plum of Florida as the place to be. They may be paying dearly for it. I don't know.

As I indicated earlier, in this industry at least, the only constant is going to be very rapid change. Those who don't get on the train in a hurry aren't going to get to the depot, which isn't very far down the line.

Looking to the Future

Charles J. Zwick
President and Chief Executive Officer
Southeast Banking Corporation

Charles J. Zwick is president and chief executive officer of Southeast Banks, headquartered in Miami. Zwick is a 1954 Phi Beta Kappa graduate of Harvard University, with a Ph.D. in economics. Following two years of teaching at Harvard, he joined the Rand Corporation in California where he remained until 1965. In that year, he moved to the Office of Management and Budget where he served as director in 1968 and 1969. Since that time, he has held the top post at Southeast Banks. Zwick is a member of the Conference Board, the Greater Miami Chamber of Commerce and the Florida Council of 100.

The ground rules by which we have operated for the past forty or so years are becoming obsolete. After all, the financial industries of this country have been regulated by a set of rules that essentially evolved after the great depression of the thirties. After that very difficult period, there was a decision to segment the financial industries. Within the depository institutions, we segmented first by function. We had the thrift industry, the commercial banking industry and the investment banking community, and the theory was that each served different purposes. Particularly after the 1930 experiences, they wanted to prevent an implicit conflict of interest between the investment banking function of underwriting obligations and securities of commercial ventures with the depository responsibilities of the commercial bank. The first segmentation was by function and then we have segmented by geography.

Ground rules changing

Essentially, we have an industry definition that worked very well for almost forty years, or say it worked very well for thirty years. The last ten years the definition has started to crumble, and the reasons for that, I think, are inevitable. First, change in both electronic and transportation technology has made it difficult to maintain geographic monopolies or geographic restrictions. Secondly, an attitude favoring competition rather than regulation has become popular in our society as people have started to forget about the 1930s. Consequently, you see deregulation in the transportation industries and in other industries, and you're seeing that pro-competition attitude coming forth in the financial industries. Lastly, we've had inflation, and the means and approaches to dealing with inflation have led to very violently fluctuating interest rates, which has led us to try to define new products and new services to work with these violently fluctuating interest rates. I think these three phenomena have set off change, and have raised major issues.

The first issue is competition between banks and thrift institutions. In the short run, thrift institutions will be getting more bank-like powers and still retain their interest-rate differential, plus certain real estate lending and branching advantages. This change will exacerbate competition between the thrifts and banks. Over the long run, Regulation Q is

scheduled to be phased out and the issue of interest rate differentials will disappear. Third, an expansion of asset powers of thrifts will not cause banks direct competitive problems immediately. In fact, an expansion of thrift asset powers could add to their short-run earnings problems as they try to absorb new product lines and new businesses.

The second big subject of competition between depository and nondepository institutions is an issue that Joel Wells focused on. Deregulation of interest rate ceilings continues to be a very important problem. The need for banks to get a product or service competitive with money market funds is crucial. However, as interest rates fall we can expect to see renewed interest in longer-term certificates.

Second, the ability to offer products and services to meet consumers' needs will continue to be a major problem facing banks, as opposed to nondepository institutions. Today's customers are sophisticated and they will not stay loyal to institutions which cannot meet their perceived needs. These needs are subject to rapid change, and the competition to meet these needs will be strong among different types of institutions. Banking should strive to be as flexible as possible with respect to the products and services being offered.

Lastly, more and more institutions are getting into the payments business, and we cannot predict how this process will evolve. We cannot determine by law who will or will not be in the payments business. Entrance will innovate around the law. If reserve requirements are continued to be judged necessary for monetary purposes, a market rate of interest should be paid on required reserves so that the reserve requirements can equitably be imposed on all those who wish to enter the payments business. Trying to confront new entrants such as the money market funds with reserve requirements would be, I would argue, a losing proposition both for the monetary policy authorities and for those of us who have to pay reserve requirements.

Lastly, a few words on interstate banking. With the increased level of volatility in interest rates and the prospective phase-out of Regulation Q, retail branches as a means of gathering deposits will become increasingly more expensive. As this process continues, there'll be less pressure to lower geographic restrictions to obtain "cheap core deposits." The increased relative cost of branches will accentuate the trend toward electronic banking. Therefore, restrictions in this area should become more important with the passage of time.

Capital and structure continue to cause problems for many banking organizations, and the merger option is one of the best ways to alleviate these problems. Removal of interstate restrictions would help in this respect.

The current regulatory framework has already permitted a tremendous amount of interstate banking. Interstate restrictions have been less onerous on the asset side than on the liability or funding side. Thus, we can expect to see continued pressure on regulation and technology to produce new ways of gathering funds. Removal of interstate restrictions would help banks as opposed to their nonbank competitors. However, for the industry as a whole, these problems are secondary relative to the ability to compete on the basis of product and service offerings and interest rates.

Strategies for the future

I would suggest two things to my friends in the depository business. One, decide who you are and who you are not and target your markets and customers. Then, try to tie those customers as closely as possible to you, what is known as relationship banking, because we will see Florida as an entry point for a number of institutions. They will come in and open offices which are non-economic. They will then try to cover costs through volume, and when they find that does not work, then they will start cutting prices.

What can we look for from the government? My view is that the government is the last institution to innovate. It's the protector of the status quo and, therefore, you shouldn't have much hope that they're going to be thinking too much about the new, emerging financial institutions of the southeast. Their history and interest has been toward the existing money center banks, which leads not deliberately, but by accident, to a bias that has led us to be making the argument about the level playing field. We are not really concerned about competition, but rather that the ground rules with regard to branching rights, capital requirements and mergers, should be consistent and then let the best man win.

The Florida Forecast for 1982

Hank Fishkind
Bureau of Economic and Business Research
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The National Economy

Economic performance in 1981

The latest national data indicate that the U.S. economy has entered its eighth postwar recession. Industrial production has continuously contracted since July, retail sales are down, and employment is falling. The usual inventory imbalances which characterize a recession are developing. In addition, auto sales dropped back again in the first ten days of December and new orders for durable goods were off significantly, presaging further declines in the future. Thus, further deterioration of economic activity is on tap for the first quarter of 1982.

The summary data outlined in Table 1 document the initial stages of the 1981 recession. During the first seven months of 1981, retail sales grew at an anemic 4.5-percent annual rate. However, even this slow pace was not sustainable and sales have barely increased between July and November. In addition, industrial production has dropped at a 15 percent annual rate since July in contrast to the 2.3 percent gain posted in January to July, 1981. Payroll employment is down at a 2.0 percent clip and personal income grew at a more modest 9.9 percent rate for the three months ending October, 1981. One benefit from the current recession is a significant reduction in the rates of interest and inflation.

Since January, 1980 the U.S. economy has experienced a period of unprecedented volatility. Two recessions have developed in just 18 months. The recovery phase of the 1980 recession lasted just 12 months, from July, 1980 to July, 1981, making it the shortest recovery since World War II. The recovery was not only short, but also weak. For example, over the 12-month period ending in July, 1981, real GNP grew by just 3.6 percent compared to the average gain of 23.8 percent over the last six recovery periods. Employment increased by a mere 2.5 percent in the most recent recovery, compared to an average gain of nearly 11 percent in previous recoveries.

The short duration of the 1980-81 economic recovery can not be blamed on a lack of productive capacity, since capacity utilization peaked at just over 80 percent. Nor can a lack of labor be faulted. Instead, the short recovery and ensuing 1981 recession was brought about by the collision between a continuation of restrictive monetary policy and an excessively inflation-prone economy.

Table 1.—Major economic indicators (seasonally adjusted, annual rate of change)

	1-81 to 7-81	7-81 to 11-81
Retail sales	**4.5**	**– 0.4**
Industrial production	**2.3**	**– 15.0**
Payroll employment	**1.9**	**– 2.0**
Personal income	**10.7**	**9.9**
Consumer prices	**9.5**	**9.1**

Viewed from this broader perspective, the 1981 recession is similar to the 1980 recession in many respects. Although credit market controls were not imposed in 1981 as they were in 1980, in both cases the recessions were induced by very high rates of interest, particularly on a real-or price-deflated basis. High interest rates and sluggish economic growth are the consequences of moving from a long period of inflationary monetary policy to one of more control over growth in the money stock.

This transition to an era of control over the money stock has been a difficult one for the financial markets. Consider the following facts: (1) real economic growth has averaged just 1.8 percent from 1980:4 to 1981:3, (2) the inflation rate has declined by about 2 percentage points, (3) the dollar is very strong, and (4) total borrowing as a percentage of total savings is below the 10-year average. On this latter point, although short-term borrowing was strong, long-term borrowing was very weak. Finally, the growth of M_1B has been below the Federal Reserve's target range while growth in M_2 lies just above the range.

On this basis, interest rates should have fallen over the course of 1981 from their record 1980 levels. Instead, rates moved even higher. Three-month treasury bills peaked once in May at 16.3 percent and again in August at 15.6 percent, and averaged more than 12.5 percent in 1981. Long-term rates fared even worse; the AAA corporate bond rate peaked at 15.5 percent in October, 1981 and averaged 14 percent for the year.

Why did interest rates remain so high, given a favorable economic environment? Why were the rates so volatile? One major reason is Federal Reserve policy. The Fed is committed to restraining

Table 2- Summary of national indicators (seasonally adjusted at annual rates)

	Quarterly						Annual			
	81:3	81:4	82:1	82:2	82:3	82:4	1981	1982	1983	1984
Real GNP	1512.8	1490.3	1483.9	1485.8	1505.1	1523.2	1507.5	1499.5	1567.3	1628.2
% change	0.6	-5.8	-1.7	0.5	5.3	4.9	1.8	-0.5	4.5	3.9
Real disposable income per capita	4534	4548	4527	4516	4620	4657	4528	4590	4751	4873
% change	1.5	1.2	-1.8	-1.0	9.5	3.2	-0.4	1.2	3.7	2.6
Unemployment rate	7.2	8.2	8.6	8.7	8.6	8.4	7.5	8.6	7.9	7.5
Automobile sales (mils.)	9.1	7.6	8.5	8.7	9.6	10.0	8.7	9.2	10.2	10.5
Housing starts (mils)	1.0	0.8	1.1	1.3	1.5	1.6	1.1	1.4	1.8	1.9
Implicit GNP deflator	9.5	8.8	6.5	7.2	7.0	8.2	9.2	7.6	7.7	7.4
Personal consumption deflator	9.1	7.3	7.4	6.9	6.8	6.8	8.3	7.3	7.1	7.0
Implicit deflator residential structures	5.9	6.2	8.3	8.9	10.0	10.5	6.7	7.9	10.4	8.7
Three-month T-bill	15.1	11.3	10.1	10.9	12.3	13.4	13.9	11.7	12.7	11.6
Time deposit rate at commercial banks	10.6	10.2	9.9	9.7	9.9	10.0	10.1	9.9	10.2	10.2
New conventional mortgage rate	16.2	16.0	15.2	14.8	14.6	15.0	15.6	14.9	14.4	13.6
Money supply growth (M_2)	8.3	9.5	7.4	7.5	9.0	8.6	9.7	8.4	8.0	8.0

Table 3.—Recent trends in Florida economic indicators (seasonally adjusted quarterly changes unless noted, in thousands)

	80:4	81:1	81:2	81:3	Average 80:4 to 81:3
Employment	62.5	42.4	35.3	71.3	52.9
Manufacturing	7.3	3.6	4.7	8.3	6.0
Trade	16.6	12.9	10.6	18.8	14.7
Services	19.5	9.0	16.4	25.2	17.5
Finance, insurance, and real estate	6.7	4.9	2.9	3.3	4.4
Construction	8.0	6.9	-0.1	-1.5	3.3
Government	6.5	1.7	1.3	10.5	5.0
Transportation, communications, and utilities	2.4	1.6	1.8	0.6	1.6
Unemployment rate (level)	5.6	6.1	6.3	6.4	6.1
Population	90.5	91.5	91.3	91.0	91.1
Taxable sales (billions)	0.8	0.4	1.2	0.1	0.6
Savings deposits (billions)	1.3	1.2	0.5	0.1	0.8
Housing starts					
Single (level)	25.1	19.8	20.9	14.5	20.1
Multi (level)	24.4	22.4	24.5	16.1	21.9
Tourism					
Air (millions)	2.8	2.7	2.9	2.8	2.8
Car (millions)	5.0	4.7	5.5	5.4	5.2
Total expenditure (billions)	3.8	3.7	3.6	3.8	3.7

Note: Totals may not add due to rounding and seasonal adjustment.

inflation by carefully controlling the money stock. In this way, the overall rate of inflation can be controlled and inflationary expectations dampened. While *Outlook* subscribes to these views, the Fed has had difficulty implementing them in an even-handed manner.

Growth in the money stock has been volatile. For example, when the money stock (M_1B) grew somewhat below trend in early 1981, the Fed responded strongly by expanding reserves. However, the financial markets reacted strongly and negatively. Fearing a repeat of the excessive money growth which occurred in the spring of 1980, commodity prices were bid upward. The Fed retightened monetary policy in April leading to the May peak in interest rates. Similar fluctuations occurred later in the year.

Policy-induced economic fluctuations are very difficult to forecast. In our view, the twin recessions of 1980 and 1981 were policy-induced events. Wide variations in monetary growth have distorted the more usual cyclical processes.

Forecast: recession and recovery

The national forecast is displayed in Table 2. The effects of the 1981 recession will spill over into the first half of 1982. Economic activity is depressed as firms work to reduce their inventories. Output and employment levels continue to deteriorate with real GNP contracting at a 1.7 percent rate following the 5.8 percent plunge in 1981:4. The recession reduces the demand for loanable funds, easing pressure on the financial markets. In addition, the recession promotes greater price stability. As a result, interest rates and inflation will ease lower during the first half of 1982.

Lower levels of interest and inflation promote a modest recovery in the severely depressed housing and auto industries. However, a more robust recovery must await the second installment of the tax cut scheduled for July, 1982. While the tax cuts planned for July, 1982 and July, 1983 provide the impetus for vigorous economic growth, they also create the major obstacle to the recovery. How will the massive federal budget deficits be financed in an environment of restrictive monetary policy?

Outlook expects the Federal Reserve to continue its monetarist policy of trying to carefully control growth in the money stock. While quarter-to-quarter fluctuations will occur, the forecast is for annual growth in M_2 to range between 8 and 9 percent. Since the Federal Reserve will not accommodate the large federal deficits, how will the private capital markets respond?

The federal deficits are likely to be massive indeed—$100 billion per year in 1982 and 1983 and somewhat less in 1984. To determine the impacts of these deficits on the capital markets, we examined data on the flow of funds. In 1980 (the latest year for complete data), U.S. government securities absorbed nearly 28 percent of all funds raised in the U.S. capital markets. The $100-billion deficits, plus other federal borrowings, are projected to total around $200 billion in 1983 and 1984.

Outlook projects rapid increases in the supply of loanable funds in 1982 and 1983 due to normal cyclical patterns, augmented by the savings effects of the Reagan tax cuts. Even so, federal borrowing will absorb an even larger share of funds (30 percent in 1982 and 1983) than in 1980. As a result, interest rates will be higher than would otherwise be the case. Although investment will be affected, the impacts are relatively small in our estimation.

Thus, short-term interest rates average 11.7 percent in 1982 and 12.7 percent and 11.6 percent in 1983 and 1984, respectively. Mortgage rates trend downward over the forecast interval, but the quarterly changes are somewhat erratic. Figure 1 displays these projections.

The restrictive monetary policies in force through 1984 will promote a period of price stability. For example, the GNP deflator is forecast to remain in the 7-to 8-percent range. This projection assumes that wage agreements during the forecast period will average around 8 percent. The 1981-82 recession and the difficulties facing many major U.S. industries (autos, air transport, rubber) support the assumption of restraint in wage agreements. Figure 2 illustrates the forecasted growth path for real GNP and the deflator for consumer expenditures.

Figure 1.—Interest Rates

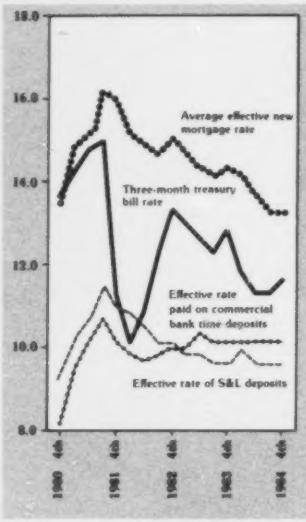
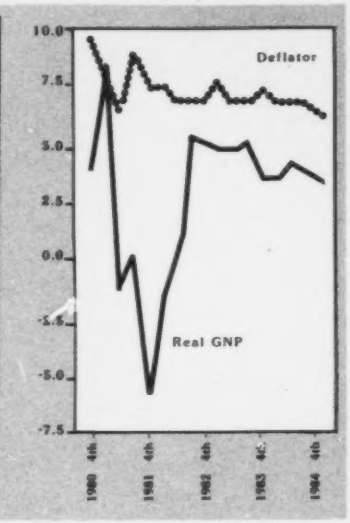


Figure 2.—Real GNP and the deflator for consumer expenditures



The Florida Economy

Economic performance in 1981

In spite of fluctuating national economic conditions, including two recessions, the Florida economy performed strongly in 1981. Employment growth has averaged 52,900 new jobs per quarter (see table 3). The trade and service sector were especially strong. Population gains averaged 91,100 per quarter, and total housing starts averaged 42,000 per quarter.

However, there was some weakness apparent in three important areas. First, savings deposits averaged a meager $600 million per quarter as money market yields soared above those generally available at Florida savings and loans. Second, taxable sales grew slowly. Finally, tourism was flat.

The latest data indicate that those sectors of Florida's economy which are most closely linked to the national economy are the first to feel the impacts of the national recession. For example, tourist arrivals by both car and air declined in 1981:3 (see Table 3). Taxable sales increased by just $100 million, well below its previous trend. Saving deposits increased solely on the strength of the interest credited to existing deposits; net new savings flows were negative.

Additionally, housing starts collapsed during the third quarter. Single-family starts fell from more than 20,000 in 1981:2 to below 15,000 in 1981:3. Multifamily starts fell even more, from 24,500 to 16,100. As a result, construction employment dropped for the second consecutive quarter.

By contrast, the rest of Florida's economy has yet to be affected by the national recession for one of two reasons. First, some sectors of Florida's economy exhibit a lagged response to changing national economic conditions. For example, population growth has yet to slow significantly. This lagged response reflects the fact that it takes time to consummate a move, and on average those arriving today made their decisions to move some six to twelve months ago. Thus, the current national recession will affect population growth, but not until 1982.

Table 4.—Summary of Florida forecast (annual rates of change)

	Quarterly				Annual			
	81:4	82:1	82:2	82:3	1981	1982	1983	1984
Population	3.3	2.7	2.4	1.8	3.6	2.8	2.4	3.4
Housing starts								
Single-family (thousands)	68.7	82.7	83.7	89.4	72.4	86.9	109.4	132.3
Multifamily (thousands)	61.1	54.7	53.1	59.6	78.3	57.4	85.9	90.0
Tourist visits	33.0	33.4	33.6	33.7	32.2	33.7	36.0	38.4
Nonagricultural employment	5.7	-0.6	1.0	5.2	5.3	2.9	4.7	6.9
Unemployment rate	6.4	6.9	7.4	7.2	6.1	7.1	6.5	5.6
Income								
Personal	17.4	10.8	9.7	12.3	15.7	13.1	12.6	15.3
Real personal	9.4	3.2	2.6	5.2	6.9	5.4	5.1	7.8

Second, other sectors of Florida's economy are one-step removed from the effects of the national economy. Florida's large trade and service industries are good examples. These sectors sell most of their products in the Florida market. Thus, their levels of economic activity are more responsive to variations in Florida economic activity than to national conditions.

This contrast between those sectors closely linked to the national economy and those which are not is apparent from Table 3. Population growth continued at a steady pace in 1981:3, and the unemployment rate moved just slightly higher. Total nonagricultural employment jumped by a whopping 71,300, posting its best gain in a year. Employment gains in government, trade, and services were particularly noteworthy.

However, the robust growth of total nonagricultural employment and the continuing strong population gains are unlikely to continue. Since these sectors generally feel the influence of a national recession either with a lag or only indirectly, their current strength is not unusual. However, care must be taken not to extrapolate continued rapid growth in the future. A national recession is occurring, and those sectors of Florida's economy which are linked to the national economy are transmitting the recession to Florida.

Florida forecast: slower growth followed by a boom

The national recession which is now underway will reduce growth in Florida's economy over the course of 1982. Population growth and housing starts will be primarily affected and each will expand at below-average rates. However, construction employment will be the only sector sustaining a major loss. The national recovery projected for mid-1982 stimulates vigorous economic growth in Florida in 1983 and 1984. The Florida economy will be growing at full-fledged boom levels from mid-1983 through 1984.

The near-term prospects for Florida are adversely affected by further deterioration in national housing markets, sky-high mortgage interest rates and the overall national recession. First, when housing markets become depressed for lengthy periods of time, people have difficulty selling their homes and migrating to Florida. Second, high mortgage rates depress housing activity in Florida as well as in states which send people to Florida. Finally, the national recession reduces the demand for Florida's exports in general and has a particular impact on tourism.

Fortunately, the national recovery is expected to be a vigorous one. In addition, lower rates of interest and inflation will also benefit Florida. Since Florida will experience few if any imbalances during the 1982 slowdown, the state's economy is poised for vigorous growth in 1983 and 1984. Table 4 contains the forecast summary.

Population growth will slow significantly over the course of 1982. The lengthy depression in housing markets nationwide has depressed home sales. This depression inhibits Florida's population growth, which is based on interstate migration. The slower pace of population growth in Florida actually has been occurring throughout 1981, but this trend was masked by the influence of the Cuban migration in mid-1980.

Migration of people 65 and older and under age 65 is being impacted by the national recession. Figure 3 illustrates the recent trends in migration and displays the forecast. As the graph shows, migration of people under age 65 has already begun to decline and is projected to fall until 1982:3. A strong rebound is forecast from that point through the end of 1984. Migration of people 65 and older is also occurring at a slower-than-usual pace. Recovery here is delayed until 1983:1. Putting these trends together indicates that population increases will slow from the 358,000 posted in 1981 to 230,000 in 1982. This slowdown represents a change from 3.6 percent growth in 1981 to 2.8 percent in 1982. The recovery, coupled with renewed vigorous economic growth in Florida, will foster a strong rebound in population growth with the gains totaling 294,000 in 1983 (a 2.4 percent gain) and 398,000 in 1984 (up 3.4 percent). At the 1984 pace, population growth is approaching its historical peak set in the 1970:4 to 1973:4 boom.

After dropping 30 percent in 1981:3, single-family housing starts will recover slowly over the course of 1982. On the positive side, falling mortgage rates will help starts. However, following a quick rebound this quarter, starts cannot post successive, rapid gains in an environment of slowing population growth. Mortgage rates are projected to drift lower in 1983 and 1984, and this reduction, coupled with renewed population growth, will fuel a boom in single-family

starts. Figure 4 plots these trends. By 1984 single-family starts should reach new all-time highs.

Multifamily starts are forecast to absorb the brunt of the 1982 slowdown in residential construction. Multifamily starts will fall steadily, reaching their trough in 1982:2 at a 53,100-unit pace. A strong recovery begins in 1982:3, as Figure 4 indicates. On an annual basis, multifamily starts drop from 78,300 in 1981 to 57,400 in 1982. The recovery phase carries multifamily starts to 85,900 in 1983, exceeding the previous cyclical peak in 1979. Additional growth to 90,000 starts is on tap for 1984.

In terms of total housing starts, the projections are as follows:

Total Florida housing starts (in thousands)

	1981	1982	1983	1984
Starts	**150.7**	**144.3**	**195.3**	**222.3**

To put these projections in perspective, the total numbers of starts forecast for 1983 and 1984 are the highest since 1973's record of 269,000.

A number of factors are expected to favor single-family starts over multifamily starts. First, *Outlook* uses the census definitions of single and multifamily units. In general, if more than one residence is served by a common entryway, the unit is classified as multifamily. Otherwise, the unit is counted as single-family even if it is attached to others or shares a common wall. This definition signifies that the single-family category is a broader classification than multifamily.

Second, in an attempt to make housing more affordable, builders are experimenting with new designs and concepts such as no-frill units. Most of these innovations apply to single-family units. Since these effects are likely to accelerate during the forecast period, single-family units will receive a boost. Third, over the 1982-1984 period, personal income is projected to grow rapidly in Florida. Rapid increases in income augment the demand for single-family units relative to multifamily units. Finally, financing considerations favor single-family developments. Single-family projects are generally less risky to finance because they can be built more easily in stages than multifamily projects.

Florida's tourist industry will improve modestly in 1982 as total visitors reach 33.7 million, up 4.7 percent over 1981. Tourist arrivals by car are expected to be rather flat in 1982, with most of the increase coming in the arrivals by air. More buoyant growth is in store for 1983 and 1984. The level of tourist visitations in Florida is strongly influenced by the national growth in real, disposable per capita income. The rapid rebound forecast for the U.S. economy in 1983 and 1984 coupled with the tax cuts will propel real, disposable per capita income upward, stimulating Florida tourism throughout the forecast period.

Florida will experience reduced employment growth in 1982. The momentum of strong increases in employment which characterized the first three quarters of 1981 will carry over into 1981:4. Declines in construction and in finance, insurance, and real estate in 1981:4 are outweighed by the gains in services, trade, and manufacturing. However, a further fall-off in construction employment in 1982:1 occurs when employment gains in other sectors are also weakening. Thus, total nonagricultural employment dips at a 0.6 percent annual rate in 1982:1. Renewed, strong growth in employment begins in 1982:3. On an annual basis, total nonagricultural employment grows at a moderate 2.9 percent rate in 1982. With the recovery gaining strength from mid-1982, total nonagricultural employment increases by 4.7 percent in 1983 and leaps 6.9 percent in 1984.

Figure 3.—
Migration Components of Population Change (seasonally adjusted at annual rates, in thousands)

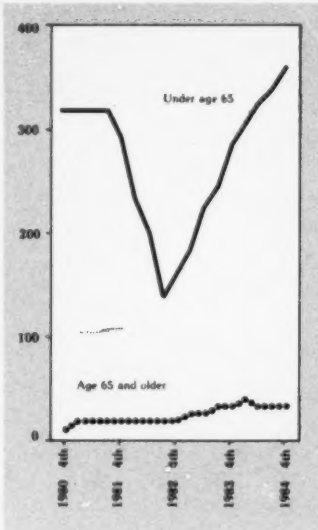
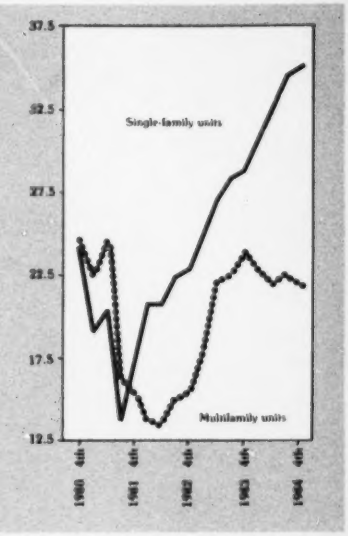


Figure 4.—
Florida Housing Starts (in thousands)



Variations in total nonagricultural employment represent changes in the number of jobs in the economy. Trends here give rise to changes in the labor force and in total employment as measured by the household survey. The slowing of job creation in total nonagricultural employment forecast from 1982:1 to 1982:2 results in a slowdown in employment measured on the household survey basis. The end result is two quick jumps in the unemployment rate to 7.4 percent in 1982:2. More rapid job creation during the remainder of the forecast period drives the unemployment rate back down.

Variations in personal income are the result of changes in its components, earnings, property income, transfer payments and social security taxes. Since 65 percent of Florida's personal income is derived from earnings, it is the dominant influence. Earnings in turn depend on employment. The upward thrust in earnings during 1981 is blunted by slower employment growth during the first half of 1982. As employment gains accelerate in 1983 and 1984, earnings move ahead strongly.

The three remaining components of personal income behave in contradictory patterns during the forecast period. First, social security taxes rise sharply because of the legislated increases in social security tax rates and because earnings will rise rapidly in 1983 and 1984. Second, property income will grow more slowly because interest rates will be lower in 1982 and 1984 than they were in 1981. Finally, transfer payments increase prodigiously in 1982 as the unemployment rate increases. With the recovery, transfer payments will grow more moderately in 1983 and 1984.

Putting these trends together provides the forecast for personal income. Growth slows in the first half of 1982 as the growth in earnings is depressed. Recovery takes hold in 1982:3. On an annual basis, personal income posts gains of 13.1 percent in 1982, followed by increases of 12.6 percent and 15.3 percent for 1983 and 1984, respectively.

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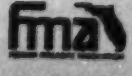

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INTROGRAM

This special issue of *Dimensions* is the first in a series of four editions spotlighting a region of Florida. Our first regional analysis features the ten-county area of southeast Florida comprised of Indian River, St. Lucie, Martin, Okeechobee, Glades, Hendry, Palm Beach, Broward, Dade and Monroe counties. The first article on the region is divided into three areas: a regional overview; future trends and prospects, and a detailed analysis of each county. The regional overview compares and contrasts regional trends with those of the state in the areas of population, housing, employment, personal income, sales, agriculture and crime. The county-level analysis takes a closer look at these same areas listed above and compares each county's trends with the levels of the region and state.

The data presented in the text are also shown in tabular form throughout the article. In the tables, the counties are arranged in three homogeneous categories: the newly developing coast (Indian River, St. Lucie, Martin); the agricultural sub-region (Okeechobee, Glades, Hendry); and the urban sub-region (Palm Beach, Broward, Dade, Monroe). Provided at the bottom of the tables are regional and state data for comparison.

A common problem facing each of the ten counties is the quality and quantity of present and future water supplies. Three contrasting views of the causes and solutions of this regional water problem are presented in this issue. First, Art Marshall, a noted ecologist, takes a critical look at the history of water management in south Florida and offers specific solutions to the problems he outlines. Next, James Heaney, director of the University of Florida's Water Resources Research Center, presents his own view of the regional water situation and offers a counterpoint to Marshall's theories. Finally, Margaret Yansura, public information officer for the South Florida Water Management District, presents the District's views of water management policies in south Florida.

The Second Quarter 1983 issue of *Dimensions* will feature the next special regional edition—an analysis of the Tampa Bay area and southwest Florida.

— Hank Fishkind, Associate Director

SOUTHEAST FLORIDA: A REGIONAL PROFILE

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The changes that south Florida has undergone in the past 100 years are nothing short of phenomenal. Consider the fact that in 1880 the south Florida region had approximately 1,700 people, or about 0.6 percent of the state's total population. During the next 100 years, the region gained more than 3.7 million people, and now constitutes almost 37 percent of the state total.

Between 1920 and 1960, Dade County grew from 42,753 to 935,047, an average of 22,307 people per year. Broward County grew from 5,135 in 1920 to 333,946 in 1960, an increase of 8,220 people per year. The region had an estimated population in 1920 of 73,580. Forty years later the population had increased more than twenty-fold to 1.5 million. The area has undergone rapid and sometimes turbulent changes. There have been times of prosperity, crime and corruption, and natural disaster; however, the region continues to grow and prosper. Fifty years from now historians will view the problems which south Florida is currently undergoing as growing pains in the transition from a developing area to a mature region.

Population

The south Florida region, with more than 3.7 million people, contains 36.8 percent of the total state population. Dade County is the most populous in the region with more than 1.7 million residents, while Glades County is the smallest with slightly more than 6,000 inhabitants. More than 90 percent of the region's population is in the Gold Coast areas of Palm Beach, Broward and Dade counties.

During the decade of the 60s, Broward County was the fastest growing county in the region with a 6.4 percent annual growth rate, followed by Okeechobee County with 5.7 percent and Martin County with a 5.2 percent rate. Among the slowest growing counties during this period were Monroe with a 0.9 percent annual growth rate, Glades with a 2.2 percent rate and St. Lucie with a 2.6 percent

rate. These rates compare with an overall state average of 3.2 percent.

In the seventies, a different pattern emerged. Growth in the region moved up the coast into Martin, St. Lucie and Indian River counties. Between 1970 and 1980, Martin County was the fastest growing with an 8.6 percent growth rate, followed by Okeechobee at 6.1 percent, St. Lucie at 5.5 percent, and Indian River and Palm Beach at 5.2 percent. Among the slowest growing counties were Monroe at 1.9 percent and Dade at 2.5 percent. In fact, during the seventies, only Dade and Monroe counties grew at a slower rate than the state average of 3.7 percent.

Comparing trends over the 1980-1981 period, there was continued growth in the northern coastal counties and a resurgence of growth in Dade County. Dade exhibited a 5.7 percent increase, ranking third in the region after St. Lucie with a 8.7 percent increase and Palm Beach with a 6.6 percent rise. The slowest growing counties between 1980 and 1981 were Monroe at 1.6 percent and Glades at 2.6 percent.

An important population characteristic which should be examined is the elderly component. Between 1970 and 1980, the percentage of the population in Florida aged 65 and over increased from 14.6 percent to 17.3 percent. This same trend was evident in south Florida, with the elderly population constituting 15.2 percent of the total population in 1970 and 18.9 percent in 1980. Within the region, Martin County had the highest proportion of elderly in both 1970 and 1980 with 21.3 percent and 24.5 percent, respectively. High elderly population components are also found in Palm Beach, Broward and Indian River counties. Hendry, Okeechobee and Glades, the predominantly agricultural counties, and Monroe County had the smallest percentage of the elderly population component over the past ten years.

Housing

The region's housing units as a percentage of the state total remained relatively stable between 1970 and 1980, averaging about 36.6 percent. The interesting housing characteristic in the region is the growth of seasonal and occasional use units. In 1970, 3.9 percent of the units were classified as such, but by 1980 this category had increased to 6.8 percent. An examination of the individual counties shows that in all cases, the number and proportion of seasonal units increased. The largest gains were made in Okeechobee County where seasonal units increased from 3.8 percent in 1970 to 19.3 percent in 1980, St. Lucie County from 2.7 percent in 1970 to 12.8 percent in 1980, and Hendry County from only 2.0 percent seasonal units in 1970 to 8.2 percent in 1980. The large increases in Okeechobee and Hendry counties are due to their proximity to Lake Okeechobee, and are attributable to fishing-related units, while the St. Lucie County figure is due to the winter tourist trade. The counties with the largest proportion of seasonal units include Glades with 32.0 percent, Okeechobee at 19.3 percent, Monroe at 17.9 percent and Martin at 16.5 percent. The transition of Dade and Broward counties from tourist centers to major urban areas is substantiated by their both having the lowest proportion of seasonal housing units in the region at 7.5 percent.

The average household size in the region compares favorably with the state average. In 1970, the state figure was 2.90 compared to 2.85 for the region. By 1980, the state household size had fallen to 2.55 while the region dropped to 2.52. Within the region, however, there are some sizable differences. The largest household size is found in Hendry County with 3.06, while the lowest is in Monroe County with 2.34. Of the ten counties in the region, five had household sizes larger than the state average: Hendry, Glades, Okeechobee, St. Lucie and Dade.

Employment

The region's proportion of total state nonagricultural employment dropped between 1970 and 1980 from 39.7 percent to 38.5 percent. The manufacturing employment share in the region increased slightly from 37.8 percent of total state manufacturing in 1970 to 38.4 percent in 1980. Construction, on the other hand, dropped slightly from a 43.0 percent share of total state construction employment in 1970 to 42.6 percent in 1980. As of 1980, manufacturing employed 12.7 percent of the nonagricultural labor force and construction employed 8.2 percent. The manufacturing share of 12.7

percent compares favorably with the state figure of 12.8 percent, while the construction component of 8.2 percent is somewhat larger than the state average of 7.4 percent.

Manufacturing employment tends to be concentrated in the Gold Coast counties of Dade, Broward and Palm Beach, as well as in Hendry County. Construction employment is concentrated in the newly developing counties, particularly Martin and Palm Beach, with construction employment contributing 15.4 percent and 9.9 percent of the total nonagricultural employment, respectively.

Personal Income

In 1970, the south Florida region had a per capita personal income of $4,400, which was $631 higher than the state average of $3,769. Of the ten south Florida counties, five had per capita incomes greater than the state average. Hendry County had the highest regional income of $5,519 per capita while Glades and Okeechobee counties had the lowest incomes of $2,815 and $2,818 per capita, respectively.

By 1980, the region's personal income rose to $10,412 per capita compared to $9,100 statewide. The number of counties exceeding the state average increased to six, an increase of one over the 1970 level. Palm Beach County had the highest figure, with $11,548 per capita, while Glades County had the lowest with only $4,500, less than half the state average.

Other noteworthy aspects of personal income are the transfer and earnings components. In 1980, 15 percent of the region's total personal income was comprised of transfer payments, such as social security and welfare. This figure compares with 17.2 percent for the state. Five counties in the region exceeded the state average: Okeechobee (20.9 percent); Glades (20.3 percent); St. Lucie (19.6 percent); Indian River (18.4 percent); and Martin (17.6 percent). Dade County had the lowest share of transfer payments with 13.7 percent.

As for the earnings component of personal income, the regional average was 64.1 percent, while the state average was slightly higher at 65.7 percent. Only two of the ten counties had percentages which exceeded the state average: Dade at 76.8 percent and Hendry at 72.5 percent.

Sales

The 1981 levels of gross and taxable sales in the region amounted to $56.9 billion and $25.9 billion, respectively. The region's gross sales were 36.3 percent of the state total while taxable sales amounted to 38.8 percent. In 1979-1980, both gross and taxable sales grew at faster annual rates than did the state. Gross sales in the region grew at a 14.6 percent rate compared to 14.1 percent for the state. Taxable sales in south Florida grew at a 13.1 percent rate compared to 12.2 percent for the state. However, between 1980-81 the state's growth of gross and taxable sales outpaced the region's with a gross sales increase of 14.1 percent compared to 12.8 percent for the region, and a taxable sales growth of 14.7 percent relative to 12.4 percent for the region.

An examination of the individual counties shows that between 1970-80, Martin County had the highest growth in gross sales with a 24.8 percent annual rate and in taxable sales with a 23.4 percent rate. Between 1980-81, Monroe County exhibited a 28.9 percent increase in gross sales, the highest in the region, and Glades County had the largest increase in taxable sales with 31.0 percent.

Agriculture

The latest available data indicate that 11.6 percent of the state's farms and 24.6 percent of state's farmland are in the south Florida region. The market value of products from these south Florida farms comprise one-third of the total state market value. On a per farm basis, the region is almost three times as productive as the state. Between 1969 and 1974, the total value of products sold increased at a 14.2 percent annual rate in the region compared to 11.0 percent for the state. However, between 1974 and 1978, the market value in the region grew at an 11.2 percent rate while the state grew at a 12.6 percent rate.

A comparison among counties provides some interesting facts. Dade County, with the largest population, also had the highest number of farms and the second largest total market value of products sold. However, the number of acres farmed in Dade County is the second lowest in the region and the average farm size is the lowest. One possible

explanation for the Dade County situation is the large number of truck farms which sell products via roadside stands direct to the consumer at retail prices.

Palm Beach County has the largest number of farmland acres with 726,673, followed by Hendry with 608,783 acres. Together, these counties contain more than 44 percent of the region's farmland. Palm Beach County also has the highest total market value with $492.9 million, which is more than four times that of Dade County, the second highest in the region.

The market value of products sold grew at an annual rate of 20.3 percent in Glades County between 1969 and 1974. This rate was the high mark for the region. Between 1974 and 1978, St. Lucie and Martin counties exhibited the largest growth rates in market value with 18.9 percent and 18.3 percent, respectively.

Crime

Although crime statistics are not usually included in regional economic profiles, the high levels in the region have made such an analysis necessary. While the crime rate in the region is higher than the state, 9,661.8 crimes per 100,000 people for the region compared to 8,805.4 per 100,000 people for the state in 1981, the rates of growth are different. The region's crime growth has actually been less than that of the state. Between 1971-80, the region's crime growth was 8.0 percent per year, while the state's was 8.5 percent. Between 1980-81, the region's crime rate dropped by 6.2 percent while the state's rate increased by 5.0 percent. Nonetheless, between 1971 and 1980, there was a dramatic increase in the crime rate. Four counties had crime rates which grew faster than the state: Monroe (12.9 percent annual rate); St. Lucie (10.4 percent); Hendry (9.6 percent); and Palm Beach (9.1 percent). The counties with the highest crime rates in 1981 were Dade (10,523 crimes/100,000 population); Monroe (9,659/100,000), St. Lucie (9,567.5/100,000) and Palm Beach (9,306.1/100,000). After a dramatic increase in the past several years, the 1980-81 period showed a decline in the growth of the crime rate in seven of the ten counties, as well as in the region as a whole. The three counties with increases over the 1980-81 period were Hendry (27.3 percent), St. Lucie (3.9 percent) and Martin (0.5 percent).

Future Trends and Prospects

Some analysts believe that south Florida is undergoing another boom. According to a *Wall Street Journal* article, the city of Miami is undergoing the largest commercial construction boom in its history. There are currently underway 19 major downtown projects valued at more than $1 billion. The reasons for this boom are simple: international trade, financing and banking.

International trade had its beginnings in the early sixties with the first wave of Cuban refugees. In 1962, the state's foreign trade was valued at $700 million. Today, that figure is more than $18 billion. It is estimated that more than half of this trade flows through Miami International Airport and the Port of Miami. The airport has become the fifth largest cargo-handling facility in the world.

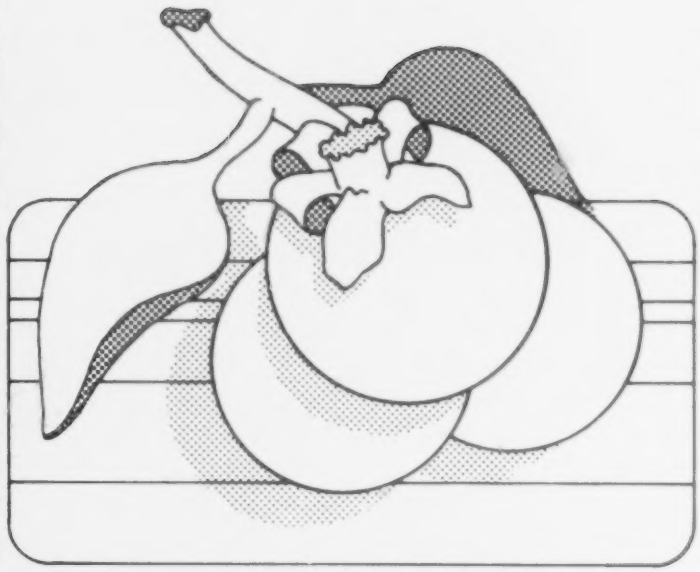
The state's liberal foreign banking laws have also contributed to this boom. Five years ago there were no foreign banks in Miami, but Florida has recently passed New York as the number one state in international banking subsidiaries with 46. It is safe to say that most, if not all, of these international banks are located in south Florida.

The increasing number of banks combined with the proximity of south Florida to Latin America has resulted in the establishment of nearly 200 multinational corporations in Miami. Other companies are moving their Latin American offices to Miami, choosing Miami's crime to that of Latin America's.

The growth of international banking in south Florida advanced last year with the establishment of IBF's (International Banking Facilities), which are essentially financial, free-trade zones. The state's laws governing these IBF s are very liberal and within three weeks (about February 1982) of the Federal Reserve Board's decision to permit IBFs, Miami had 23. As of May 20, the city had 62.

From all indications, it appears as though south Florida's future lies with international trade and finance. Some experts believe that lack of strength in the Latin American economy could cause trade to stall and along with it, a sizable portion of the south Florida economy. However, for the present time, south Florida's economy looks strong.

INDIAN RIVER



The estimated 1981 population for Indian River County is 63,100, which is a 5.3 percent annual rate of increase over 1980. Over the 1970-1980 period, population grew from 35,992 to 59,896. This increase represents an annual growth rate of 5.2 percent. During the decade of the sixties, population in the county grew at a somewhat slower 3.6 percent annual rate.

The distribution of age groups shows an increase in the 65-and-over category between 1970 and 1980. In 1970, the 65+ share was 17.4 percent, and by 1980 the share had increased to 20.3 percent. The youngest age group (under 14), on the other hand, had a declining share, contributing a 27.3 percent share in 1970 and only an 18.1 percent share in 1980.

The county's racial characteristics show a slight increase in the proportion of whites to non-whites from an 81.7 percent/18.3 percent split in 1970 to an 86.6 percent/13.4 percent split in 1980.

The total number of housing units in the county grew at an annual rate of 7.6 percent from 14,109 in 1970 to 29,417 in 1980. The increase in the seasonal housing unit category was much more dramatic, growing by more than 5.3 times between 1970 and 1980. Seasonal units expanded from 718 in 1970 to 3,817 in 1980, which represents an annual growth rate of 18.2 percent. As of 1980, 13.0 percent of all housing units are now used on a seasonal or occasional basis.

The county's household size has fallen considerably from 2.90 persons per household in 1970 to 2.49 persons per household in 1980. The 1980 household size is slightly less than that of the region (2.52) and the state (2.55).

Total nonagricultural employment increased from 11,120 in 1970 to 17,020 in 1980, which represents an annual growth rate of 4.3 percent. No comparison can be made with respect to manufacturing because manufacturing and retail and wholesale trade employment were combined in 1980. While construction employment increased from 1,100 in 1970 to 1,390 in 1980, its annual growth rate of 2.4 percent was considerably less than the growth in overall employment. Thus, construction employment constituted 9.8 percent of total nonagricultural employment in 1970 and only 8.2 percent in 1980.

Total personal income grew at an annual rate of 16.6 percent between 1970 and 1980, or from $128.2 million to $595.4 million. The transfer component of personal income grew from a 15.0 percent share in 1970 to an 18.4 percent share in 1980. Earnings, on the other hand, decreased from a 63.0 percent share of total personal income in 1970 to 50.4 percent in 1980.

Between 1970 and 1980, gross sales in Indian River County grew at an annual rate of 19.1 percent while taxable sales grew somewhat more slowly at an 18.0 percent annual rate. The 1981 sales figures indicate a slower growth in both gross and taxable sales at annual rates of 16.7 percent and 15.8 percent, respectively.

The number of farms in the county decreased from 337 in 1969 to 325 in 1974, and then increased to 357 in 1978. However, the total number of acres in farm land has steadily decreased from 187,286 in 1969 to

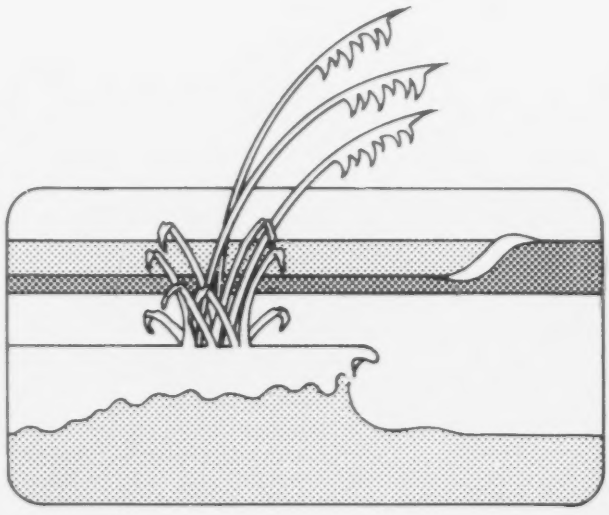
Table 1.—South Florida: Population for 1970, 1980 and 1981

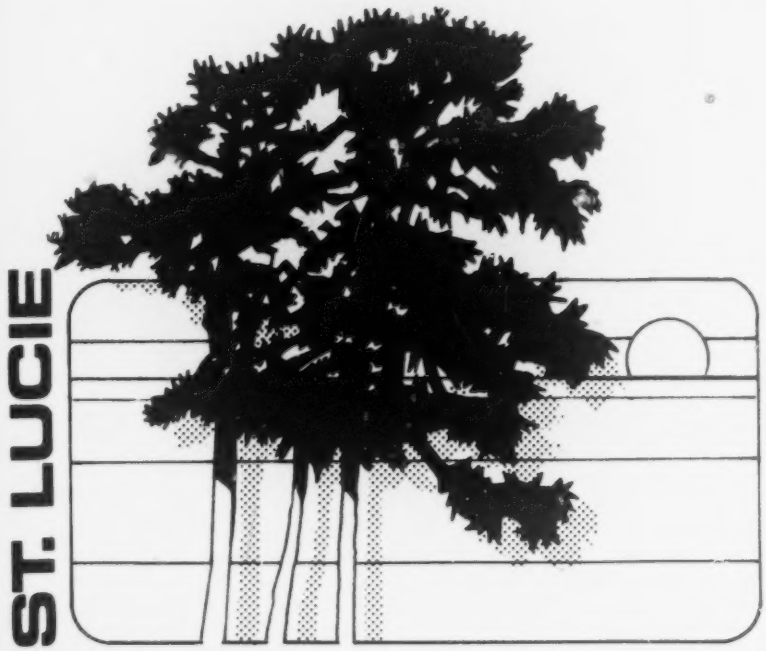
	1970		1980		1981*	
	Total population	Annual percent change 1960-70	Total population	Annual percent change 1970-80	Total population	Annual percent change 1980-81
Indian River	35,992	3.6	59,896	5.2	63,100	5.3
St. Lucie	50,836	2.6	87,182	5.5	94,727	8.7
Martin	28,035	5.2	64,104	8.6	67,569	5.6
Okeechobee	11,233	5.7	20,264	6.1	21,139	4.3
Glades	3,669	2.2	5,992	5.0	6,147	2.6
Hendry	11,859	3.9	18,599	4.6	19,440	4.5
Palm Beach	348,993	4.3	576,863	5.2	615,165	6.6
Broward	620,100	6.4	1,018,200	5.1	1,047,313	2.9
Dade	1,267,792	3.1	1,625,781	2.5	1,718,516	5.7
Monroe	52,586	0.9	63,188	1.9	64,168	1.6
Region	2,431,095	4.9	3,529,979	3.8	3,717,284	5.0
State	6,791,418	3.2	9,746,324	3.7	10,105,957	3.7

*Bureau of Economic and Business Research estimates.
Source: U.S. Bureau of the Census.

172,088 in 1978. The statistics on the number of farms and number of acres farmed indicate a decrease in the average farm size from 556 acres/farm in 1969 to 482 acres/farm in 1978. The market value of farm products has increased from $13.6 million in 1969 to $43.0 million in 1978. The market value of products increased at a 16.8 percent annual rate between 1969 and 1974, while between 1974 and 1978, the annual rate of growth was only 9.7 percent.

Total crimes in the county grew from 1,305 in 1971 to 4,033 in 1980. Crimes/100,000 increased at an annual rate of 8.1 percent between 1971 and 1980. Between 1980 and 1981, the total number of crimes dropped from 4,033 to 3,631 and the rate per 100,000 population fell at an annual rate of 18.4 percent.





The 1981 population of St. Lucie County, as estimated by the Bureau of Economic and Business Research, is 94,727, which represents an increase of 8.7 percent over the 1980 figure of 87,182. Between 1970 and 1980, population grew at an average rate of 5.5 percent, compared to a 2.6 percent annual growth rate between 1960 and 1970.

An examination of the racial composition of the county shows an increase in the proportion of whites relative to non-whites. In 1970, the split was 69.0 percent white and 31.0 percent non-white, but by 1980 this split was 77.6 percent white and 22.4 percent non-white.

The age breakdowns indicate an increasingly elderly population. In 1970, the 65 and over category represented 14.5 percent of the total population. By 1980, this category had risen to 17.0 percent. Another noteworthy point is the dip in the percentage of those under 14 from 28.4 percent in 1970 to 21.6 percent in 1980.

The number of housing units in the county increased by 18,871 in 1970 to 40,915 in 1980, an annual increase of 8.0 percent. Seasonal units in 1970 represented 501 or 2.7 percent of the total housing stock. The number of seasonal units increased dramatically during the 70s at an annual rate of 26.4 percent. By 1980 there were 5,218 housing units which constituted 12.8 percent of the housing stock.

Total employment in St. Lucie County grew from 15,920 in 1970 to 23,760 in 1980, which is an annual growth rate of 4.2 percent. Manufacturing employment grew at a 4.2 percent annual rate, while construction increased at an annual rate of 7.2 percent. Construction employment comprised 5.8 percent of total employment in 1970 and 7.7 percent in 1980. Manufacturing employment exhibited little change as a percentage of total employment, rising from 9.3 percent in 1970 to 9.4 percent in 1980.

Total personal income grew at an annual rate of 15.7 percent between 1970 and 1980. The transfer component, which was 14.6 percent of total personal income in 1970, increased to a 19.6 percent share in 1980. Earnings, on the other hand, which represented 68.6 percent of total personal income in 1970 fell to a 61.9 percent share in 1980.

Gross sales increased at an annual rate of 16.9 percent between 1970 and 1980. Taxable sales grew at a slightly lower rate of 15.4 percent over the same period. The trends over the period from 1980 to 1981 indicate a slowing in the growth of gross sales to a 12.3 percent annual rate and an increase in the growth of taxable sales to a 16.6 percent annual rate.

The number of farms decreased from 404 in 1969 to 349 in 1978. Over this same period, the farmland acreage has fluctuated from 321,413 acres in 1969 to 324,164 in 1974 to 306,737 in 1978. The average farm size has fluctuated as well from 796 acres in 1969 to 895 acres in 1974 to 879 acres in 1978. While the acres in farmland have decreased, the market value of products has shown strong increases. Market value of farm products grew at an annual rate of 8.8 percent between 1969 and 1974. Between 1974 and 1978, the market value grew at an annual rate of 18.9 percent.

Total crimes increased from 1,974 in 1971 to 9,063 in 1981. Crimes per 100,000 grew at an annual rate of 10.4 percent between 1971 and 1980, from 3,773.4 to 9,205.6. Between 1980 and 1981, the annual growth rate was 3.9 percent, much lower than the 10.4 percent exhibited for the 1971-1980 period.

The estimated 1981 population for Martin County is 67,659. The annual rate of growth between 1980 and 1981 was 5.6 percent, somewhat slower than the rate of increase between 1970 and 1980 of 8.6 percent. The annual growth rate during the previous decade was 5.2 percent.

An analysis of the age group distribution shows that the 14-and-under age group is growing more slowly than all other age categories. In 1970, this group constituted 23.8 percent of the total; however, by 1980 the percentage had decreased to 16.4 percent. Two age groups made up the difference; the 25-44 group grew from an 18.5 percent share to a 21.4 percent share and the 65+ group grew from a 21.3 percent share in 1970 to a 24.5 percent share in 1980.

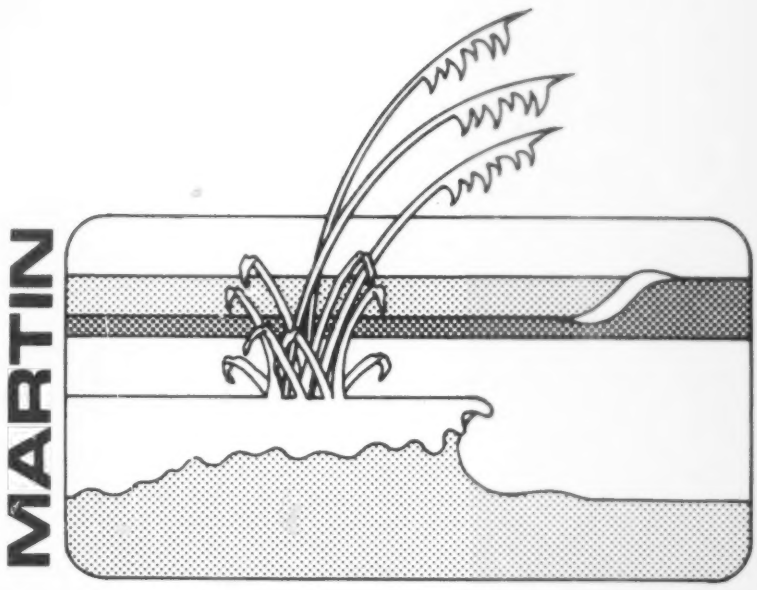
The racial makeup of the Martin County population in 1980 was 92.2 percent white and 7.8 percent non-white. In 1970 the breakdown was 84.7 percent white and 15.3 percent non-white.

The total number of housing units has grown at an annual rate of 10.6 percent from 12,403 in 1970 to 34,002 in 1980. The number of seasonal or occasional-use units grew at a 19.1 percent rate, from 980 in 1970 to 5,626 in 1980. Seasonal units made up 7.9 percent of total housing units in 1970 and 16.5 percent in 1980.

The household size in 1980 was 2.40, down from 2.72 in 1970. The Martin County household size was less than that of the region (2.52) and the state (2.55).

Total nonagricultural employment for the county was 18,980 in 1980. Between 1970 and 1980, employment grew at an annual rate of 7.5 percent. The manufacturing component of the total was 9.6 percent, down from 15.0 percent in 1970, while job increases in manufacturing amounted to only 440. The construction employment picture is much different. There was an increase of 1,900 jobs in the construction category, which constituted 15.4 percent of total employment, up from 11.1 percent in 1970.

Total personal income in Martin County grew from $112.3 million in 1970 to $629.6 million in 1980. In other terms, personal income grew at an annual rate of 18.8 percent. The transfer component in 1980 was 17.6 percent of total income, up from 14.3 percent in 1970; and the earnings component was 57.8 percent, down from 60.4 percent in 1970.



Gross and taxable sales grew at annual rates of 24.8 percent and 23.4 percent, respectively, between 1970 and 1980. In both categories, the growth between 1980 and 1981 has been substantially less with gross sales growing 12.9 percent and taxable sales growing 14.6 percent.

Between 1969 and 1978, the number of farms in Martin County increased from 140 to 172. The number of acres of farm land decreased from 206,477 acres in 1969 to 199,826 acres in 1978. Consequently, the average farm size also decreased from 1,475 acres per farm in 1969 to 1,162 acres/farm in 1978. The market value of farm products was $65.0 million in 1978, up from $19.1 million in 1969. Between 1969 and 1974, the market value increased at an 11.7 percent annual rate and between 1974 and 1978 at an 18.3 percent annual rate.

The total number of crimes committed in the county in 1981 was 4,546, up slightly from 4,216 in 1980. Crimes per 100,000 population grew at an annual rate of 0.5 percent from 1980 to 1981, down considerably from the 7.7 percent increase exhibited between 1971 and 1980.

Table 2.—South Florida: Age and race characteristics

	1970			1980		
	Percent age 65+	Percent white	Percent non-white	Percent age 65+	Percent white	Percent non-white
Indian River	17.4	81.7	18.3	20.3	86.6	13.4
St. Lucie	14.5	69.0	31.0	17.0	77.6	22.4
Martin	21.3	84.7	15.3	24.5	92.2	7.8
Okeechobee	8.0	84.5	15.5	12.1	90.8	9.2
Glades	9.1	68.8	31.2	14.7	80.9	19.1
Hendry	7.1	75.6	24.4	8.6	78.8	21.2
Palm Beach	17.3	82.2	17.8	23.3	86.1	13.9
Broward	17.8	87.2	12.8	22.0	88.2	11.8
Dade	13.5	84.7	15.3	15.7	81.8	18.2
Monroe	8.5	90.8	9.2	14.1	92.8	7.2
Region	15.2	84.7	15.3	18.9	84.8	15.2
State	14.6	84.3	15.7	17.3	85.4	14.6

Source: U.S. Bureau of the Census.

Table 3.—South Florida: Housing characteristics

	1970				1980			
		Seasonal and occasional use				Seasonal and occasional use		
	Total housing units	Units	Percent of total	Average household size	Total housing units	Units	Percent of total	Average household size
Indian River	14,109	718	5.1	2.90	29,417	3,817	13.0	2.49
St. Lucie	18,871	501	2.7	2.98	40,915	5,218	12.8	2.65
Martin	12,403	980	7.9	2.72	34,002	5,626	16.5	2.40
Okeechobee	3,719	141	3.8	3.34	9,605	1,849	19.3	2.85
Glades	1,443	227	15.7	3.24	3,475	1,110	32.0	2.69
Hendry	3,985	82	2.0	3.26	7,032	579	8.2	3.06
Palm Beach	141,363	8,960	6.3	2.78	294,090	34,079	11.6	2.42
Broward	253,320	14,750	5.8	2.76	482,891	36,222	7.5	2.42
Dade	453,908	7,546	5.8	2.91	665,414	14,477	7.5	2.63
Monroe	20,731	1,917	9.2	2.89	38,088	6,808	17.9	2.34
Region	923,852	35,822	3.9	2.85	1,604,929	109,785	6.8	2.52
State	2,527,596	84,205	3.3	2.90	4,378,691	293,893	6.7	2.55

Source: U.S. Bureau of the Census.

Lying to the north of Lake Okeechobee, Okeechobee County has one of the fastest growing populations of the counties in the region. The county has grown from about 11,233 people in 1970 to an estimated population of 21,139 in 1981. The county's rates of growth for the 60s and 70s were well above the southeastern region and Florida averages.

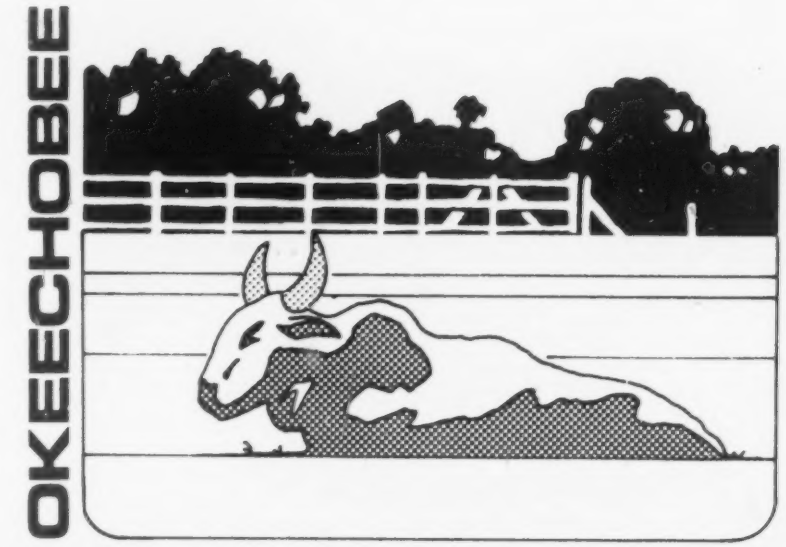
As in Glades and Hendry counties, Okeechobee County's population has a younger composition than the rest of the region and Florida. In 1980, 43 percent of the people in Okeechobee County were under 25. This figure is smaller than the 52 percent figure of 1970, so the population composition has become older but it is still much younger than the rest of the southeastern region.

Because the number of non-whites in the county grew by only 118, the percentage of non-whites has fallen from about the region average of 15.3 in 1971 to 9.2 (well below the average) in 1980.

While the total population grew by 9,031 from 1970 to 1980, the total number of housing units rose by 5,886 and the number of households more than doubled, rising by 3,802. Because the number of households rose at a faster rate than population growth, the average household size fell. While this trend in falling household size is also apparent in the rest of Florida and the nation, the drop was more rapid in Okeechobee County. As in other predominantly rural counties, the average household size in the county is larger than that for the region and Florida, but at 2.85 persons per household it is much closer to the Florida average of 2.55 than it was in 1970.

Okeechobee County experienced a moderate increase in its nonagricultural employment from 1970 to 1980. The increase in the percentage of the work force in construction from 3.2 percent to 7.5 percent probably reflects an increase in housing construction for the growing population.

Personal income grew by 291 percent from 1970 to 1980, for an annual growth rate of 4.6 percent. In spite of this rapid rate of growth, the county is still one of the poorer areas in South Florida. Because of its even more rapid rate of population growth, the county's per capita income has fallen from 74.8 percent to 67.2 percent of the state's average. This decrease is reflected by the fact



that transfer payments accounted for 20.9 of total personal income in 1980, which compares with 15.0 percent and 17.2 percent for the region and state, respectively. Similarly, the county's earnings only amounted to 58.6 percent of the total income versus 64.1 and 65.7 for the region and state. In keeping with the rapid rate of personal income growth in the county, both gross sales and taxable sales grew at a rate greater than that of the region and Florida averages.

The number of farms with sales of more than $2,500 in Okeechobee has grown by 57.6 percent from 1969 to 1978, and the number of acres devoted to agriculture has also increased. Even though the average farm size has declined over this period and is smaller than in Glades or Hendry counties, it is still twice as large as the average farm size in the region and four times the state average. The average market value of farm products per farm fell below the region average in 1978 but has been consistently above the state level.

As in the other rural counties, living in Okeechobee County is safer than in the urban areas. The crime rate, which dropped noticeably in 1981, was significantly lower than both the region and state averages.

Table 4.—South Florida: Estimates of monthly average employment

	1970					1980				
		Manufacturing		Construction			Manufacturing		Construction	
	Total non-agricultural	Number	Percent of total	Number	Percent of total	Total non-agricultural	Number	Percent of total	Number	Percent of total
Indian River	11,120	940	8.5	1,100	9.8	17,020	(B)	(B)	1,390	8.2
St. Lucie	15,920	1,480	9.3	920	5.8	23,760	2,240	9.4	1,840	7.7
Martin	9,200	1,380	15.0	1,020	11.1	18,980	1,820	9.6	2,920	15.4
Okeechobee	2,480	200	8.1	80	3.2	4,000	200	5.0	300	7.5
Glades	640	220	34.4	0	0.0	690	(A)	(A)	(A)	(A)
Hendry	2,540	280	11.0	40	1.6	4,340	810	18.7	150	3.6
Palm Beach	136,500	20,500	15.0	10,800	7.9	208,300	28,600	13.7	20,600	9.9
Broward	222,400	21,300	9.6	27,000	12.1	349,300	41,300	11.8	32,200	9.2
Dade	588,900	78,700	13.4	33,300	5.7	730,700	99,700	13.6	39,600	5.4
Monroe	17,320	460	2.7	780	4.6	20,200	800	4.0	1,400	6.9
Region	1,007,020	125,460	12.5	75,040	7.5	1,377,290	175,470	12.7	112,400	8.2
State	2,539,100	331,600	13.1	174,600	6.9	3,576,200	456,400	12.8	263,900	7.4

(A) Withheld to avoid disclosure of information on individual firms.
(B) Combined with retail and wholesale trade.
Source: U.S. Department of Labor, Bureau of Labor Statistics, Report on Employment, 1970, 1980.

Table 5.—South Florida: Personal income

	1970						1980					
			Transfers		Earnings				Transfers		Earnings	
	Total ($000s)	Per capita	Amount ($000s)	Percent of total	Amount ($000s)	Percent of total	Total ($000s)	Per capita	Amount ($000s)	Percent of total	Amount ($000s)	Percent of total
Indian River	128,206	3,562	19,283	15.0	80,734	63.0	595,355	9,940	109,773	18.4	299,818	50.4
St. Lucie	160,118	3,150	23,304	14.6	109,915	68.6	689,289	7,906	135,391	19.6	426,627	61.9
Martin	112,343	4,007	16,028	14.3	67,886	60.4	629,566	9,835	110,806	17.6	363,724	57.8
Okeechobee	31,655	2,818	3,711	11.7	24,197	76.4	123,836	6,111	25,878	20.9	72,581	58.6
Glades	10,330	2,815	1,029	10.0	9,178	88.8	26,966	4,500	5,465	20.3	16,118	59.8
Hendry	65,453	5,519	3,114	4.8	56,662	86.6	170,548	9,170	17,447	10.2	123,570	72.5
Palm Beach	1,619,224	4,640	164,242	10.1	1,058,828	65.4	6,661,615	11,548	993,454	14.9	3,622,245	54.4
Broward	2,897,827	4,673	308,003	10.6	1,556,464	53.7	10,932,382	10,737	1,758,384	16.1	5,718,090	52.3
Dade	5,492,566	4,332	509,686	9.3	4,569,166	83.2	16,529,386	10,167	2,271,168	13.7	12,689,115	76.8
Monroe	179,068	3,405	18,098	10.1	141,122	78.8	498,289	7,886	84,832	17.0	297,899	59.8
Region	10,696,790	4,400	1,066,498	10.0	7,674,152	71.7	36,857,232	10,412	5,512,598	15.0	23,629,787	64.1
State	25,595,568	3,769	3,034,882	11.9	18,778,784	73.4	88,693,359	9,100	15,295,632	17.2	58,233,664	65.7

Source: U.S. Department of Commerce, Bureau of Economic Analysis, unpublished data.

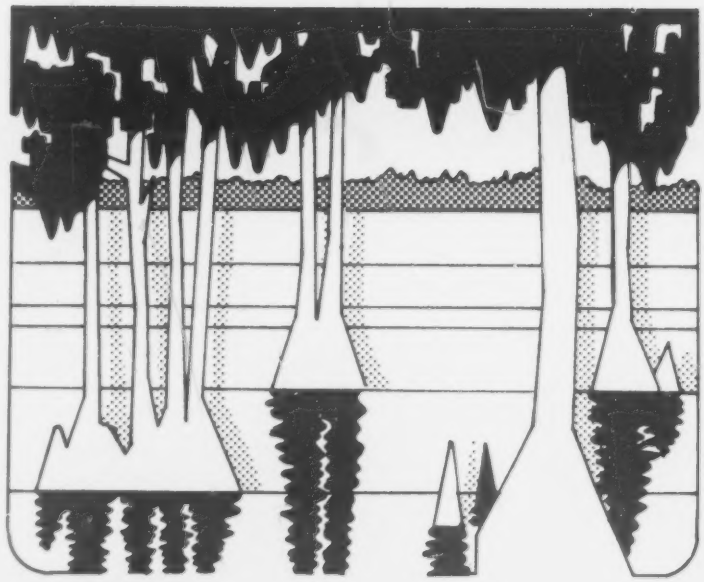
Located in the very center of south Florida, Glades County is one of the state's least populated counties. There are only three counties in Florida with fewer than the 5,992 people counted in Glades in the 1980 census.

In 1970 and 1980 respectively, 47.4 and 37.7 percent of the population was under 25. These figures are considerably higher than the 38.9 and 33.4 percent figures for the region in 1970 and 1980. The population of Glades County therefore is composed of younger people than the rest of the region, but as with the rest of the region, the population is getting older. The county also has a significantly higher percentage of non-whites than in the rest of the region or statewide. It should be noted, however, that in absolute terms the non-white population increased by only two from 1970 to 1980 while the white population increased by more than 2,200.

The total number of housing units increased by more than 2,000 from 1970 to 1980, nearly as much as the population increase of 2,323. An increasing number of these units was for seasonal and occasional use, however, as the percentage of seasonal units to the total more than doubled. The total number of households almost doubled to 2,224 while the total population increased by 63.3 percent. As a result, the average household size decreased to 2.69 persons per household, which is still above the region and Florida averages, but has moved much closer to those averages in 1980 than in 1970.

Glades County is primarily an agricultural area. Data on manufacturing and construction employment cannot be disclosed because there are so few firms in Glades that disclosure could reveal information about specific firms.

Personal income has grown much slower, at 161 percent from 1970 to 1980 than in the region, 245 percent, or statewide, 247 percent. As a result, per capita income has fallen from about three-fourths of the Florida average to less than half of the state's average. Earnings as a percentage of total income have fallen to less than the Florida and region averages, while the percentage of transfer payments in relation to total income has doubled to become larger than the Florida and region averages. This increasing importance of transfer payments to personal income in Glades County reflects increases in both state and federal programs to aid poorer areas. Personal income in Glades County has actually declined in real terms from 1970 to 1980. During the seventies, Glades' gross sales increased at almost the rate of the region and Florida averages but the taxable sales increased at about half the corresponding rates of the region and state.



GLADES

Glades County has relatively few farms, and they are much larger in acreage than the average for the region and about double the size for Florida. The market value of agricultural products is just over 2 percent of the region's total.

The crime rate dropped 35 percent in 1981 to a rate that is one of the lowest in the state.

.Table 6.—South Florida: Gross and taxable sales (thousands)

	Gross sales					Taxable sales				
				Annual percent change					Annual percent change	
	1970	1980	1981	1970-80	1980-81	1970	1980	1981	1970-80	1980-81
Indian River	96,836	554,263	646,781	19.1	16.7	65,522	341,971	395,910	18 0	15.8
St. Lucie	182,753	874,098	981,751	16.9	12.3	109,322	457,029	532,921	15.4	16.6
Martin	76,993	706,080	796,922	24.8	12.9	50,277	410,249	470,280	23.4	14.6
Okeechobee	40,320	193,336	217,782	17.0	12.6	18,612	86,729	97,135	16.6	12.0
Glades	7,748	27,482	26,030	13.5	-5.3	3,853	7,332	9,605	6.6	31.0
Hendry	67,019	318,419	408,523	16.9	28.3	18,932	82,215	97,401	15.8	18.5
Palm Beach	1,399,705	6,323,644	7,810,890	16.3	23.5	910,053	3,735,078	4,294,455	15.2	15.0
Broward	2,746,558	13,233,689	14,698,656	17.0	11.1	1,698,515	6,600,322	7,378,059	14.5	11.8
Dade	8,102,623	27,442,133	30,351,321	13.0	10.6	3,734,218	10,888,427	12,113,881	11.3	11.3
Monroe	184,132	719,683	927,624	14.6	28.9	141,378	455,157	540,126	12.4	18.7
Region	12,904,687	50,395,827	56,866,280	14.6	12.8	6,750,682	23,064,519	25,929,773	13.1	12.4
State	36,834,259	137,318,331	156.619,211	14.1	14.1	18,339,123	58,177,098	66,750,234	12.2	14.7

Source: State of Florida, Department of Revenue, Sales Tax Totals by Kind, 1970, 1980, 1981.

Table 7.—South Florida: Agricultural statistics—Part A*

	1969			1974			1978		
	Total number of farms	Total number of acres	Average farm size	Total number of farms	Total number of acres	Average farm size	Total number of farms	Total number of acres	Average farm size
Indian River	337	187,286	556	325	183,133	563	357	172,088	482
St. Lucie	404	321,413	796	362	324,164	895	349	306,737	879
Martin	140	206,477	1,475	157	213,506	1,360	172	199,826	1,162
Okeechobee	144	420,637	2,921	182	360,096	1,979	227	398,473	1,755
Glades	92	418,095	4,545	103	501,440	4,868	118	453,576	3,844
Hendry	162	595,023	3,673	171	618,501	3,617	236	608,783	2,580
Palm Beach	442	508,929	1,151	382	503,617	1,318	556	726,673	1,307
Broward	195	57,331	294	192	42,920	224	315	61,010	194
Dade	480	75,119	156	596	72,905	122	922	90,452	98
Monroe	(D)	(D)	(D)	4	6	1.5	(D)	(D)	(D)
Region	2,396	2,790,310	1,165	2,474	2,820,288	1,140	3,263	3,017,618	925
State	20,096	12,718,344	633	20,927	12,256,913	586	28,076	12,256,913	442

*All data for farms with sales greater than $2,500.
(D) Data withheld to avoid disclosing information for individual firms.
Source: U.S. Department of Commerce, 1974 and 1978 Census of Agriculture.

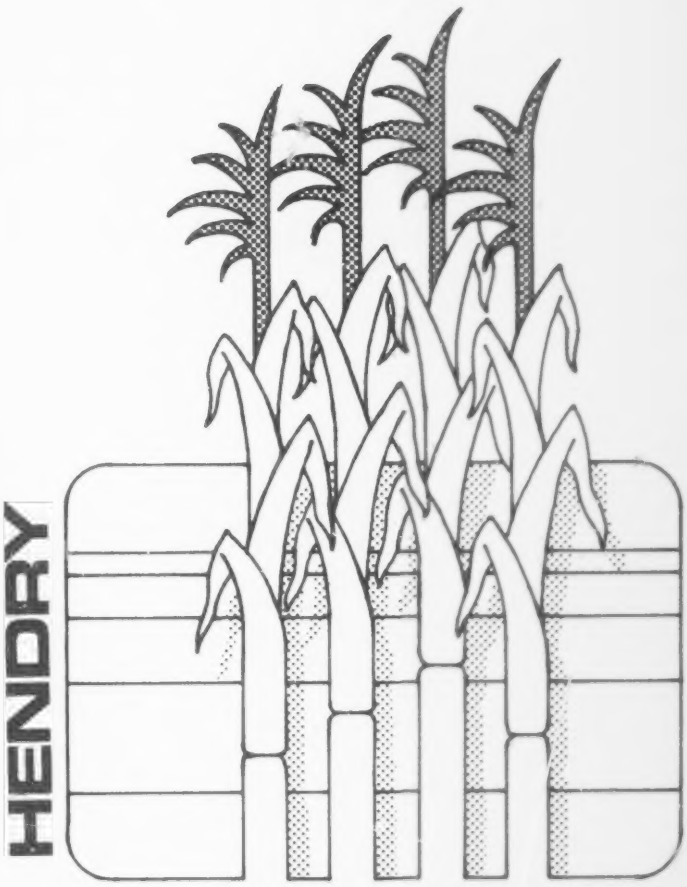
From 1970 to 1980, the population of Hendry County grew at an annual rate of 4.6 percent, which was considerably greater than the 3.8 percent growth rate of the region and the 3.7 percent increase for Florida. As with other agricultural counties in the region, the population is very young. In 1970 and 1980, respectively, 49.4 and 46.1 percent of the population was younger than 25. Compared with other counties and the state, these figures represent a very small decline that leaves the county with the region's highest proportion of people in this age group. In addition, only 8.6 percent of the population was older than 65, which was the lowest figure in the region and considerably lower than the state or region averages.

To accommodate population growth over the last decade, housing units grew by 3,047 and the total number of households grew by 2,342. The average household size declined slightly from 3.26 to 3.06, which remains well above the regional and state averages of 2.52 and 2.55 percent. This situation may be partially explained by the large percentages of young people in the population who are still living at home.

Total nonagricultural employment in the county grew from 2,540 to 4,340 from 1970 to 1980—an annual growth rate of 5.5 percent. This figure was higher than the 4.6 percent growth rate for the population. Manufacturing and construction led the way with annual growth rates of 11.2 and 14.1 percent, respectively.

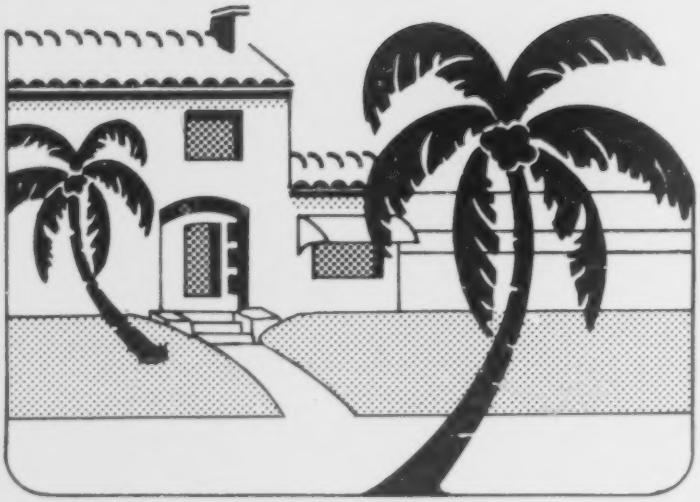
Hendry County's per capita income dipped from an unusually high figure in 1970 to a number that is at the state average for 1980. In spite of this drop, Hendry County is still far more prosperous than other agricultural counties in the region.

The average farm size in Hendry County has been between that of Glades and Okeechobee, the other agricultural counties in the region. The county experienced an unusual increase in the market value of its products for 1974, but even without this increase the county has typically been more productive than the other two counties. This high rate of agricultural productivity is undoubtedly one of the reasons for the county's relatively high personal income.



Gross sales in Hendry County grew from $67.0 million in 1970 to $318.4 million in 1980 for an annual growth rate of 16.9 percent. Taxable sales over the same period grew by 15.8 percent. For the period 1980-1981, the rates of growth increased to 28.3 percent and 18.5 percent, respectively. This advance brought gross sales to $408.5 million and taxable sales to $97.4 million.

Following the pattern of the other agricultural counties, the crime rate per 100,000 is lower than that of the region and state. Unlike the others, however, the county's crime rate took a substantial jump from 1980 to 1981. This increase leaves the county's rate substantially higher than either Glades or Okeechobee counties.



PALM BEACH

Population in Palm Beach County increased at an annual rate of 4.3 percent during the 1960s and 5.2 percent in the 1970s. Total permanent population increased 6.6 percent to 615,165 in 1981 from the 1980 Census total of 576,863. In 1970, 24.7 percent of the population was less than 15 years of age. By 1980 the proportion of residents in this age group declined to 17.0 percent. Another age category which declined during the decade was the 45-to-64 group, falling almost one percentage point from 22.8 percent to 21.9 percent of the total. The proportion in the 15-to-24 age group remained constant over the ten-year period. The remaining two age groups increased, with the majority of the gain occurring in the 65-and-over category, representing 23.3 percent of the population in 1980 compared to the 17.3 percent share in 1970. The age distribution data indicate a shift toward an older population in Palm Beach County.

The number of housing units in place in 1970 was 141,363. Increasing at an annual rate of 7.6 percent, the number of housing units reached 294,090 in 1980. The number of units held for seasonal and occasional use represented 6.3 percent of total units in 1970, but increased to 11.6 percent in 1980. The average household size was 2.78 in 1970 and fell to 2.42 in 1980. This drop is in tune with the national trend toward a smaller household size.

Total nonagricultural employment for 1970 in Palm Beach County was 136,500. From 1970 to 1980, employment in nonagricultural-related areas rose 52.6 percent (an annual rate of 4.3 percent) to 208,300. In 1981, total nonagricultural employment reached 221,000 for a healthy gain of 6.1 percent or 12,700 workers. The percentage of workers in manufacturing jobs declined over the period analyzed. In 1970 there were 20,500 workers in manufacturing positions, or 15 percent of total workers. In 1980 and 1981, the number of workers increased but the percentage of total fell to 13.7 percent and 13.0 percent, respectively. Employment in construction-related fields was at a level of 10,800 in 1970. During the following ten years, construction employment rose to 20,600 representing 9.9 percent of the nonagricultural employment force, which was up from 7.9 percent in 1970. In 1981, the number of people employed in construction jobs rose slightly to 20,800, but at a slower rate than total nonagricultural employment, which caused the proportion of workers in this area to fall to 9.4 percent.

Total personal income increased at an annual growth rate of 15.2 percent from $1.6 billion in 1970 to $6.7 billion in 1980. Transfer payments accounted for 10.1 percent of total personal income in 1970. During the ten-year period from 1970 to 1980, transfer payments increased at a faster rate than total personal income, causing the percentage of transfer payments to increase to 14.9 percent of total. This rise reflects the increased elderly population. While total earnings more than tripled over this period, its relation to total personal income declined from 65.4 to 54.4 percent.

Gross sales increased at an annual rate of 16.3 percent from 1970 to 1980, attaining a level of $6.3 billion in 1980. Due to the

Table 8.—South Florida: Agricultural statistics—Part B*

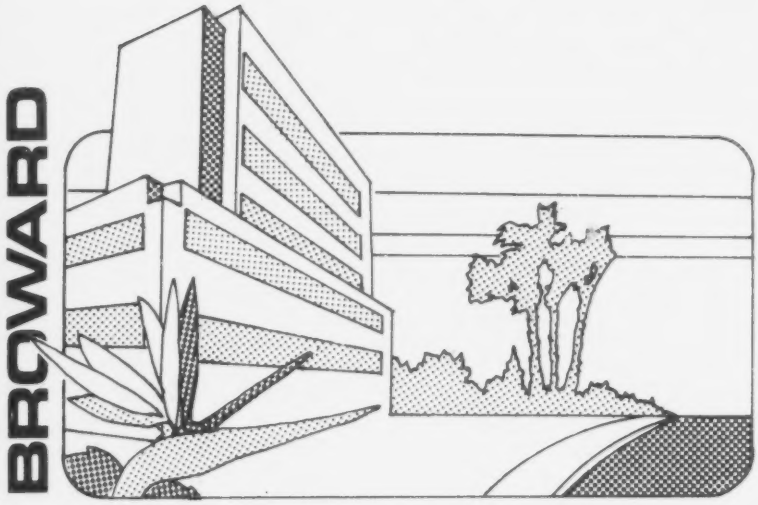
	Market value ($000s)							
				Annual rate of change		Average market value of products per farm		
	1969	1974	1978	1969-74	1974-78	1969	1974	1978
Indian River	13,632	29,663	43,019	16.8	9.7	40,452	91,271	120,503
St. Lucie	26,176	39,946	79,924	8.8	18.9	64,792	110,349	229,010
Martin	19,115	33,171	65,029	11.7	18.3	136,538	211,280	378,077
Okeechobee	24,095	50,117	55,023	15.8	2.4	167,324	275,369	242,392
Glades	8,330	20,954	23,891	20.3	3.3	90,547	203,437	202,466
Hendry	50,442	109,018	83,508	16.7	-6.4	311,368	637,532	353,849
Palm Beach	128,916	261,851	492,880	15.2	17.1	291,665	685,474	886,474
Broward	17,435	26,353	41,797	8.6	12.2	89,409	137,254	132,690
Dade	51,125	88,177	121,452	11.5	8.3	106,510	147,948	131,727
Monroe	(D)	138	(D)	NA	NA	(D)	34,250	(D)
Region	339,266	659,388	1,006,523	14.2	11.2	141,597	266,527	308,466
State	1,116,892	1,881,923	3,025,611	11.0	12.6	55,578	89,928	107,765

*All data for farms with sales greater than $2,500.
NA Not applicable.
(D) Data withheld to avoid disclosing information about individual firms.
Source: U.S. Department of Commerce, 1974 and 1978 Census of Agriculture.

growth in population during 1981 in Palm Beach County, gross sales increased 23.5 percent to $7.8 billion for that year. Taxable sales demonstrated an annual growth rate of 15.2 percent for the past decade. Growth in taxable sales was relatively constant, increasing 15 percent in 1981 to almost $4.3 billion.

In 1969, there were 442 farms in Palm Beach County with minimum sales of $2,500. These farms averaged 1,151 acres for a total of 508,929 acres. The total market value of the products generated by these farms was $128.9 million or $291,665 per farm. By 1974, the number of farms with sales of more than $2,500 declined to 382, with the average farm size increasing 167 acres per farm. The total market value of all goods produced by these farms increased by 103.0 percent to $261.9 million. The average market value per farm increased 135 percent over the same period. In 1978, the number of farms increased to 556 with a total acreage of 726,673, which averages 1,307 acres per farm. The total market value increased 88.2 percent from 1974 to 1978, causing the average market value per farm to increase 29.3 percent for the four-year period.

The total number of crimes in Palm Beach County in 1971 was only 16,258, with violent crimes accounting for 12.5 percent of that total. Based on the 1971 population, there were 4,462.9 crimes for every 100,000 residents. By 1980, the total number of crimes more than tripled to 54,224; however, the percentage of violent crimes dropped to 10.9 percent, while the number of crimes per 100,000 more than doubled to 9,800. In 1981, the number of crimes continued to increase by 5.6 percent to 57,248, but the number of crimes per 100,000 declined slightly to 9,306.1. This decline indicates that the population increased at a faster rate in 1981 than the total number of crimes for that year. Violent crimes were on the upswing reaching 6,933 and representing 12.1 percent of all crimes committed.



Population growth increased at an annual percentage of 5.1 percent to a level of 1,018,200 in 1980 from 620,100 in 1970. During the next year, population in Broward County increased 39,113 or 2.9 percent to 1,047,313. All age groups increased from 1970 to 1980 in absolute numbers while the percentage distribution increased in three age groups. The 15-24 age group increased slightly to 14.3 percent of the total in 1980. The 25-44 age group increased from 21.5 percent to 25.1 percent, while the 65-and-over category increased to 22.0 percent from 17.8 percent. Thus, the prime labor force group and retiree group are the two age categories which demonstrated the largest increases.

The number of total housing units almost doubled from 1970 to 1980. The number of households increased 87 percent over the ten-year period to 415,339. The average household size declined from 2.76 in 1970 to 2.42 in 1980. The number of housing units held for seasonal or occasional use increased to 36,222, from 5.8 to 7.5 percent of total housing units.

Total nonagricultural employment has expanded over the ten-year period from 1970 to 1980 by an annual growth rate of 4.6 percent. Growth in total nonagricultural employment continued to expand in 1981, but at a slower rate of 3.6 percent to a level of 362,000. The proportion of people working in manufacturing employment increased from 9.6 percent in 1970 to 11.8 percent in 1980. Construction employment increased 5,200 over the ten years to 32,200. Construction employment as a percentage of total nonagricultural employment declined from 12.1 percent to 9.2 percent during the period.

Personal income increased from $2.9 billion in 1970 to $10.9 billion in 1980, which represents an annual increase of 14.2 percent. Transfer payments were 10.6 percent of total income in 1970 and increased to 16.1 percent in 1980 due to an increased proportion of elderly in Broward County. The proportion of income from earnings is relatively constant over the ten-year period, falling slightly to 52.3 percent.

Gross and taxable sales collections increased at an annual percentage rate of 17.0 and 14.5 percent respectively from 1970 to 1980. As population growth slowed in 1981, so did growth in gross and taxable sales.

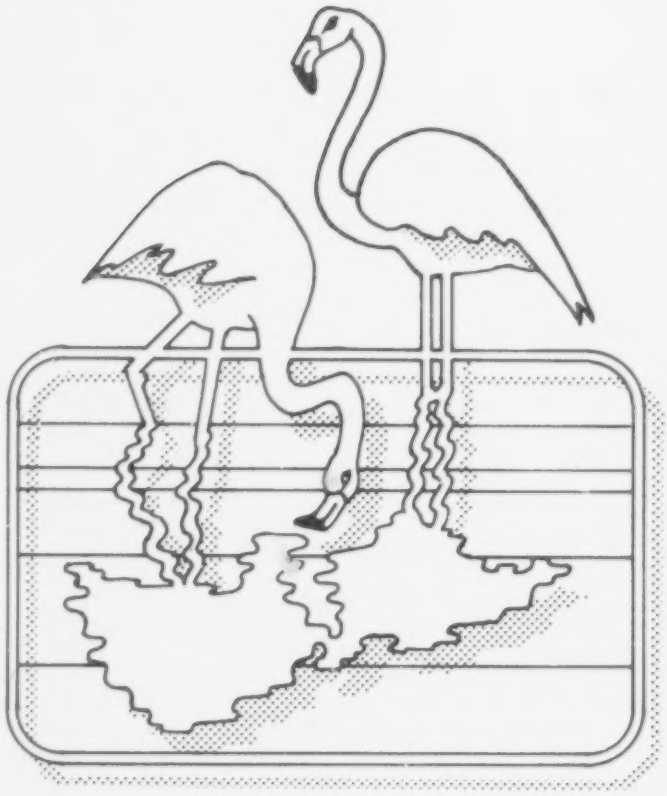
There were 195 farms with sales of $2,500 and more in 1969. These farms totaled 57,331 acres for an average of 294 acres per farm. The market value of products produced by these farms in 1969 was $17.4 million, or $89,409 per farm. In 1974, the number of farms (192) was almost the same as in 1969; however, the average farm size declined 24 percent to 224 acres. The dollar value of production rose to $137,300 per farm, an increase of 53.5 percent. The most recent data available are for 1978, which indicate 315 farms had sales of $2,500 or more. The average size of these farms was 194 acres with total acreage increasing to 61,010. The market value of the products generated from these farms increased to $41.8 million but the average market value per farm fell to $132,690.

The total number of crimes in Broward County almost tripled from 32,000 in 1971 to 95,244 in 1981. Violent crimes increased at an annual percentage rate of 11.9 during the period, and represented 10.3 percent of all crimes in 1971 and 10.6 percent of total crimes in 1981. The number of crimes per 100,000 was 4,880.8 in 1971, 9,285.3 in 1980 and 9,049.1 in 1981, an annual growth rate of 7.4 percent from 1971 to 1980. However, the 1981 crime rate dropped 2.1 percent from the level of 1980.

Population increased at an annual rate of 3.1 percent from 1960 to 1970 and 2.5 percent from 1970 to 1980. By 1981, the population increased to 1,718,516, a healthy growth of 5.7 percent over 1980. This increased population in Dade County incorporates the wave of Cuban immigrants who arrived between April and September, 1980. Since their immigration occurred after the 1980 Census, they affect significantly the 1981 population estimate. The percentage of residents under age 15 fell from 24.2 percent in 1970 to 18.9 percent in 1980. All other age groups increased in proportion over the ten-year period, with the exception of the 45-to-64 group which fell only slightly.

The total number of housing units increased by 211,506, from 453,908 in 1970 to 665,414 in 1980. This surge represents an annual percentage increase of 3.9 percent, which is less than the region's average growth of 5.7 percent. In 1970, the number of units held for seasonal and occasional use was 7,546, or 5.8 percent of the total units. Seasonal units increased in both percentage and number in 1980 to 7.5 percent and 14,477, respectively. The number of households increased from 428,026 to 609,883 during this period. According to the Bureau of the Census, the average household size was 2.91 in 1970 and 2.63 in 1980. In 1970, Dade County's average household size was almost identical to the state average of 2.90, but in 1980 the county's average household size remained high relative to the state average of 2.55.

Total nonagricultural employment was 588,900 in 1970, with manufacturing employment representing 13.4 percent of these jobs and construction representing 5.7 percent. Over the decade, total nonagricultural employment increased 24.1 percent to 737,700. Manufacturing employment increased to 99,700, or 13.6 percent of total. Construction employment also increased during this period, but constituted only 5.4 percent of total employment, down from 5.7 percent in 1970. Data for 1981 show a 2.1 percent increase in total nonagricultural employment to 745,700, with manufacturing employment declining both in numbers and as a percentage of total. Construction employment increased slightly to 40,300, but remained 5.4 percent of the total.



DADE

Total personal income increased at an annual rate of 11.6 percent from $5.5 billion in 1970 to $16.5 billion in 1980. Transfer payments were 9.3 percent of total personal income in 1970 and 13.7 percent in 1980. This increase is a function of the growing percentage of elderly residents during this period. Total earnings increased from $4.6 billion to $12.7 billion, but declined in its percentage of total income from 83.2 percent to 76.8 percent.

Gross sales increased at a 13.0 percent annual rate from 1970 to 1980, and taxable

Table 9.—South Florida: Comparative crime statistics

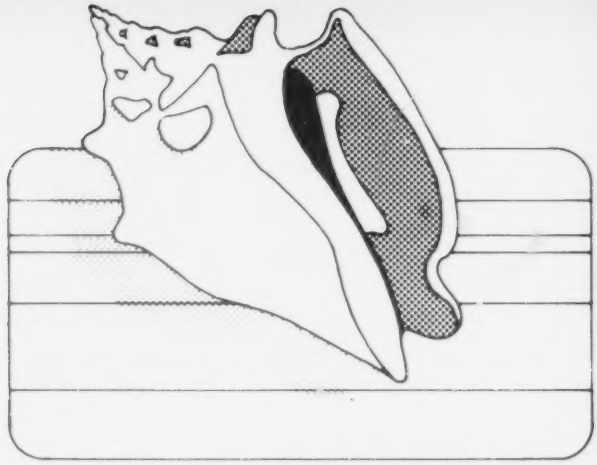
	Total crimes			Crimes per 100,000 people			Annual percent change	
	1971	1980	1981	1971	1980	1981	1971-80	1980-81
Indian River	1,305	4,033	3,631	3,500.4	7,048.6	5,754.4	8.1	-18.4
St. Lucie	1,974	8,006	9,063	3,773.4	9,205.6	9,567.5	10.4	3.9
Martin	1,018	4,216	4,546	3,431.7	6,694.3	6,727.9	7.7	0.5
Okeechobee	364	1,037	971	3,158.4	5,102.3	4,593.4	5.5	-10.0
Glades	91	284	185	2,454.2	4,713.7	3,009.6	7.5	-36.2
Hendry	276	948	1,262	2,239.0	5,100.1	6,491.8	9.6	27.3
Palm Beach	16,258	54,224	57,248	4,462.9	9,800.0	9,306.1	9.1	-5.0
Broward	32,000	93,347	95,244	4,880.8	9,285.3	9,094.1	7.4	-2.1
Dade	75,080	182,164	180,840	5,726.1	11,571.2	10,523.0	8.1	-9.1
Monroe	1,915	6,793	6,198	3,618.9	10,817.2	9,659.0	12.9	-10.7
Region	130,281	355,052	359,188	5,147.7	10,297.9	9,661.8	8.0	-6.2
State	284,396	803,509	816,439	4,039.1	8,387.8	8,805.4	8.5	5.0

NA Not available.
Source: State of Florida, Department of Law Enforcement, Crime in Florida, Annual Report, 1971, 1980, and 1981.

sales increased at an 11.3 percent annual rate during the same period. In 1981, gross sales increased 10.6 percent to $30.4 billion and taxable sales increased 11.3 percent to $12.1 billion.

There were 480 farms with sales of $2,500 or more in 1969. These farms had a total acreage of 75,119, or 156 acres per farm. The total market value of goods produced by these farms was $51.1 million for an average market value of $106,510 per farm. In 1974, the number of farms increased to 596, while the total acreage decreased to 72,905, and the average farm size declined to 122 acres. The market value of products increased 72.5 percent to $88.2 million or $147,948 per farm. Data for 1978 indicated a total of 922 farms with an average of 98 acres each. The number of farms with sales of $2,500 or more increased at an annual rate of 11.5 percent between 1974 and 1978, the average size declined at an annual rate of 5.3 percent, and the average market value per farm declined 11.0 percent to $131,727.

The total number of crimes increased from 75,080 in 1971 to 182,164 in 1980, with violent crimes representing 16.6 percent of total crimes in 1971 and in 1980. The number of crimes per 100,000 was 5,726.1 in 1971 and 11,571.2 in 1980. In 1981, the total number of crimes declined 0.7 percent to 180,840. This drop occurred in the violent and nonviolent categories, which declined 0.8 and 0.7 percent, respectively. The number of crimes per 100,000 also declined to 10,523.



MONROE

Population growth increased at an annual rate of 0.9 percent from 1960 to 1970. During the 1970s, population grew at an annual rate of 1.9 percent to 63,188. The county's 1981 population is estimated to have reached 64,168, a 1.6 percent increase for that year. In 1970, 25.7 percent to the population was less than 15 and 21 percent was between 15 and 24, which indicated that 46.7 percent of county residents were under 25. In 1980, the percentage of residents under age 25 fell to only 32.0 percent of the total population. These two age categories not only lost their share of population, but actually declined in absolute numbers. All other age groups (25 and over) increased both numerically and as a percentage of total from the 1970 to 1980 Census. This increase illustrates the demographic shift to an older average population in this area.

The total number of housing units in Monroe County in 1970 was 20,731. At that time, 9.2 percent of the units were held for seasonal and occasional use. The number of households was 16,827 in 1970 and the average household size was 2.89. In 1980, the total number of housing units increased at an annual rate of 6.3 percent to 38,088, with the number of these units held for seasonal and occasional use increasing to 6,808 units or 17.9 percent of the total. The number of households increased at an annual rate of 4.6 percent to 26,340. The average household size declined to 2.34, which is lower than the state average of 2.55.

In 1970, the number of people employed in nonagricultural-related jobs in Monroe County was 17,320. Manufacturing employment totaled 460, or 2.7 percent of total nonagricultural employment, while construction employment amounted to 780, or 4.6 percent of the total. By 1980, total nonagricultural employment reached 20,200, increasing only 16.6 percent for the ten-year period. Employment in manufacturing and construction demonstrated stronger growth than total nonagricultural employment, increasing at annual rates of 5.7 percent and 6.0 percent, respectively.

Total personal income for Monroe County in 1970 was $179.1 million. Transfer payments represented 10.1 percent of total personal income at a level of $18.1 million, while earnings accounted for 78.8 percent at a level of $141.1 million. Total personal income increased at an annual rate of 10.8 percent from 1970 to 1980. Transfer payments increased as a percentage of total personal income to 17.0 percent, reflecting the increased proportion of elderly residents over this ten-year period. Total earnings increased at an annual rate of 7.8 percent to $297.9 million.

Gross and taxable sales in 1970 posted levels of $184.1 million and $141.4 million, respectively. From 1970 to 1980, gross sales increased at an annual rate of 14.6 percent to $719.7 million. Taxable sales also increased in double-digit figures, expanding at an annual rate of 12.4 percent to $455.2 million. Year-end 1981 gross sales attained a level of $927.6 million, while taxable sales reached $540.1 million, an increase over the previous year of 28.9 percent and 18.7 percent, respectively.

Agricultural data for Monroe County are available only for 1974 because of disclosure problems. In that year, there were four farms with sales of $2,500 or more, on a total of six acres for an average of 1.5 acres per farm. The total market value of products was $138,000, or $34,250 per farm.

The total number of crimes reported in 1971 was 1,915, with 189 crimes, or 9.9 percent, being in the violent category. The number of crimes per 100,000 residents was 3,618.9. In 1980, the total number of crimes increased more than threefold to 6,793. Violent and nonviolent crimes remained in the same proportions, reaching levels of 686 and 6,107, respectively. The number of crimes per 100,000 almost tripled to 10,817.2. However, the total number of crimes fell slightly in 1981, to 6,198. The decline in crimes from 1980 to 1981 occurred in both major categories and caused the number of crimes per 100,000 to fall to 9,659.0.

THE CRISIS IN WATER MANAGEMENT IN SOUTH FLORIDA

Arthur R. Marshall

Ecologist

In its simplest form, the freshwater problem of south Florida has two equal and opposite components.

First there is the question of *demand* for water by all users: agriculture, industrial, urban and the Everglades system itself, including the national park. The total demand of all these users continues to increase. Second, there is the question of the present and future adequacy of the *supply* of water.

Rainfall is the one source of water which is potentially adequate for the multiple needs of south Florida. There are no rivers which bring water into the area. Dependence on rainfall is complicated because the rains fall largely in the months June to October, and the water that the summer rains supply must be stretched out through the rest of the year.

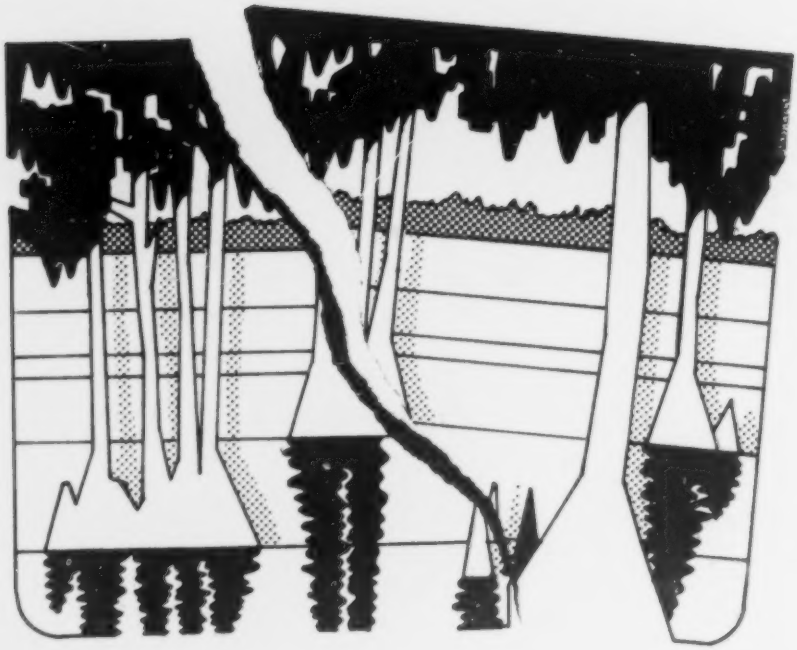
Technology and water management

Of the two issues mentioned, this analysis will center on the SUPPLY of water which is provided, or is attempted to be provided, by the billion-dollar water management project which has been installed throughout the Everglades system and the urbanized east coast.

Lake Okeechobee has often been called the 'heart reservoir' of this giant water management system, particularly in relation to surfacewater management for there is no other place where such large quantities of water can be stored for year-round use. However, the heart reservoir fails periodically to meet all user needs.

A shortfall in water supply from the south Florida water management project is a critical issue now, but a water shortage is not the only natural resource problem associated with the region.

Water quality is at least an equal problem in the lakes of the upper Kissimmee Valley; in Lake Okeechobee; in canals and underground aquifers which supply waters to the cities of the Treasure and Gold Coasts; and in the marine fish nursery grounds of Everglades National Park. The types of water quality problems differ from area to area and may consist of over-enrichment by natural fertilizing chemicals; of the presence of synthetic chemicals or heavy metals; or simply the presence of salt in quantities too great for



the several benefits some waters could otherwise provide—or some combination of these.

The continuing loss of peat and muck soils of the Everglades, through compaction and oxidation, will be a resource problem of enormous significance to food production in the near future.

Many plant and animal resources of the Everglades and of the national park continue to degrade. Marine fish populations in the brackish and saltwater environments of the park—resources of large economic and nutritional importance to the Florida Keys and elsewhere—are estimated to be down by more than fifty percent.

The present threat of further intrusions of sea water into the freshwater aquifers of the east coast is simply shocking. Last year about 325,000 acre feet of water from Lake Okeechobee were used successfully to prevent salt intrusion. This year there may not be enough water in the lake to prevent it.

While energy supplies diminish and their costs increase, the water management project is locked into technologies for operations and maintenance which cannot be sustained without the use of fossil fuels in increasing amounts.

Assessment of water management technology

Executive Director Jack Maloy of the South Florida Water Management District was on course in his statement to the Governing Board of the District in its workshop of December 10, 1981, that the time of easy answers (in water management) is gone.

As an important example, we can no longer look to the simple expedient of increased storage in Lake Okeechobee. The presently authorized high-water level in the lake, 17.5 feet above mean sea level, is as high as safety will allow.

There is no possibility that additions of technologic solutions *comparable to those installed in the past* will resolve the natural resource problems of south Florida—not even the problem of water supply alone. We must now approach the problems of the Everglades system with creative reexamination of its existing technological mode of water management. If that reexamination is to succeed, it must anticipate increasing energy shortages and costs on a world-wide basis. In addition, it must consider the increasing demands for water; the need to improve water quality; the

need to maintain and restore prime agricultural soils for the production of food; and the need to restore freshwater and marine fishery resources for recreational, economic and nutritional needs—all in and for the south Florida region.

There are six major goals which I consider top priorities in improving management of the water in the Everglades system:

1) Regeneration of muck in the Everglades. Muck, however prosaic it may seem, is the star indicator of the health of the system. Fortunately for all of us, it is a diagnostic sign which we can readily observe.

2) Reestablishment of wetland vegetation. Wetland vegetation is of course a necessary precursor to muck regeneration.

3) Enlarged populations of freshwater organisms (fish and shellfish) which are essential foods for people and wildlife.

4) Relief of stress on the endangered species of the Everglades, and on its mammalian species which are periodically decimated by high waters.

5) Enlarged populations of marine fishes and shell fishes in Florida Bay.

6) Enhanced recharge of the Biscayne Aquifer.

All of these goals involve natural resources of increasing importance to south Florida's people and its wildlife. The six concepts are all interrelated by ecologic processes to such an extent that accomplishing one of them will cause improvement in all the rest. Conversely, failure to achieve any one of them will lead to failure in all the rest.

Ultimately, many Floridians will evaluate these objectives in terms of their worth to mankind. The values of four of them—muck for food production; marine and freshwater fishes for human food; recharge of the Biscayne Aquifer for water supply—are evident in our world of increasing needs and diminishing resources.

It is not easy to recognize the value of wetland vegetation to people. Its contribution to the quality of drinking water is also little recognized.

The value of birds and other wildlife? Some of us simply enjoy them. Others recognize that the well-being of the Everglades wildlife is linked in complex ways with the well-being of the people on the Gold and Treasure Coasts. Everglades wildlife thrives on extended hydroperiods; on wetland vegetation; on the generation of muck; and on the bountiful production of marine and freshwater organisms—just as people do.

Additionally, there must be a description of a particular set of ecologic functions and processes which cannot be ignored in seeking to achieve the six objectives. As a result of any decisions taken, these processes will be functioning—beneficially or adversely.

Sheet flow

The first process is "sheet flow," which some refer to as "extended hydroperiods." I prefer the "River of Grass" because that term implies vital ecologic functions which neither of the two physical terms provide.

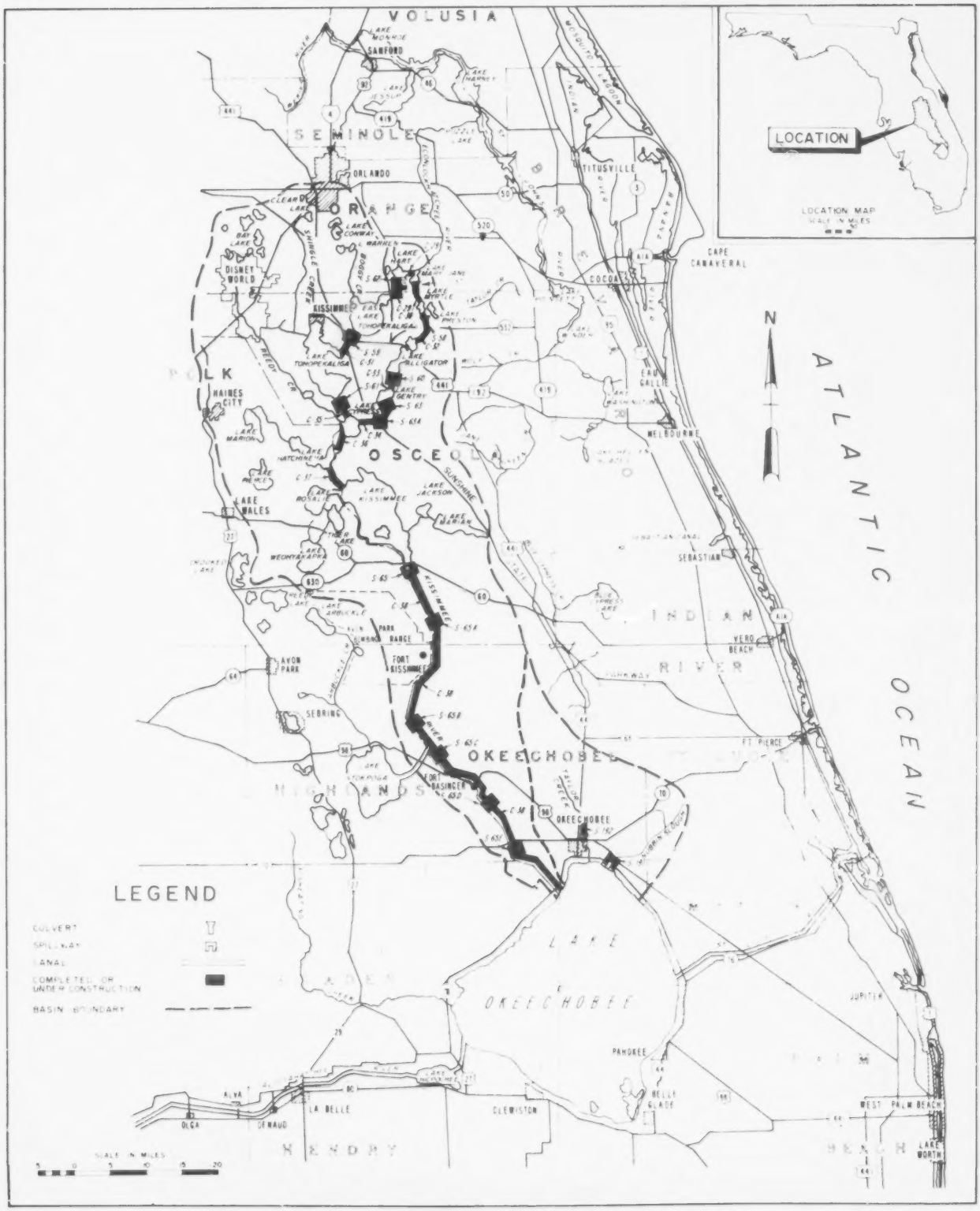
To generate muck, seven to eight months of surface sheet flow are required. Four or five months of surface flooding will produce wetland vegetation. Another three or four months of flooding, or at least of saturation, are required to convert the annual detritus (leaf fall) of wetland vegetation into muck. If wetland detritus is dried soon after the rainy season, it will pass by means of oxidation into the atmosphere rather than into the muck bed.

If we achieve an extension of hydroperiods sufficient to produce muck, the Everglades system will also produce more forage fishes and shell fishes for wading birds and other wildlife; increase the number of larger freshwater fishes and marine fishes sought by man; and increase recharges of shallow aquifers.

When we have hydroperiod shortfalls, muck is decomposed rather than produced. This process not only releases the nutrients stored in the plant tissues, as is well known, but also leads to the transport of finely divided muck particles in flowing canal waters. For many years, the blankets of ooze lying on the quiet bottoms of the St. Lucie Estuary have demonstrated the effects of that kind of transport.

It is also possible that the decomposition of muck and transport of its fine particles add to the organic load in Miami's drinking water which requires chlorine treatment. To my knowledge, this possibility has not been investigated, but it surely should be. If this situation does happen, then we have a seventh major objective—a reduction in that organic

Figure 1.- Kissimmee River basin and Lake Okeechobee



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load by replacing muck decomposition with its regeneration through an extension of the hydroperiod.

An extremely important characteristic of sheet flow is that it involves moving rather than standing water. Water moving through the Everglades, no matter how slowly, produces muck. Standing water produces ooze, as is well-demonstrated in Conservation Area 2A. I do not know the reason for this phenomenon and can find no one who does. The differences between the products of water moving, even at the slow rate of 20 feet per day, and water standing are marked—either muck or ooze. I think it is similar to the dramatic difference between being old and being dead.

The adherence to water regulation schedules in the three conservation areas is antithetical to the extension of sheet flow in the Everglades. It is not possible to manage water with emphasis being placed on the vertical component and, at the same time, to recreate extended sheet flow on a horizontal plane through the system.

Hydrologic cycle—the Marshall plan

In the 1940s and 50s, three south Florida authors—Philip Wiley, Harvey Allen and Marjory Stoneman Douglas—often discussed the possibility of south Florida becoming a desert. They knew that many great deserts of the world lie in the same latitudes as the Florida peninsula, and that south Florida's lushness was a circumtropical oddity. They were concerned then that drainage of the Everglades, which had already been underway for more than forty years, would disrupt its hydrologic cycle and dry it up like the tropical deserts.

Dr. Patrick Gannon, a meteorologist, has written of the positive effects of wetlands on rainfall in south Florida. Waters evaporated from the basin return to the basin in a form of natural recycling. In addition to this in-basin recycling, the moist air rising from the basin can trigger additional rain to fall from water-laden oceanic air masses as they blow inland over south Florida.

If all surface waters were eliminated from the Everglades system, the hydrologic cycle would be eliminated; there would be no cumulus cloud formation from waters of the Everglades; no recycling; and no triggering of rainfalls from sea clouds by Everglades air masses. South Florida would be a desert.

I fear to declare unequivocally that this desert theory is becoming a reality, but I am wearied by my long and lonely vigil over its possibility. I even hope I am wrong. But my background in science causes me to think often of the value of theory. As Henri Jules Poincare, the eminent 19th century mathematician, said, "There is nothing more practical than a good theory." Einstein extended this view by saying that, "It is theory which can be measured."

There are other issues in the Everglades system but these are enough to indicate my thinking. The following is my "Marshall Plan" for improving water management in the system.

I begin with the Kissimmee lakes. Their existing water quality problem, as exemplified by Lake Tohopekaliga, must be resolved by some means other than discharge of wastes into the lakes. Some years ago, there was widespread acknowledgement that "dilution is no solution to pollution."

The lower Kissimmee should be dechannelized. In addition to the benefits envisioned by the Legislature—benefits expected largely within the lower valley and Lake Okeechobee—dechannelization has great potential for slowing the inflow of the whole valley into Lake Okeechobee. Not only would this situation be desirable in periods of water deficiency such as Okeechobee is now experiencing, but it could also provide an extension of sheet flow south of the lake to enable muck regeneration now and in the future.

The channelized lower Kissimmee River is an absolute disaster. Although it seems remote from south Florida and its water problems, it is not. No other element of the entire water project needs correction more desperately for the benefit of south Florida.

In the late 60s and early 70s, the District and the Army Corps of Engineers spent $40 million to channelize the lower Kissimmee from Lake Kissimmee to Lake Okeechobee. The natural river flows had slowly meandered more than a hundred miles between the two lakes, while the channelized river flows run in a near straight shot of 50 miles to Lake Okeechobee.

Prior to that destruction, from which south Florida suffers and will continue to suffer until

it is corrected, the Kissimmee River and adjacent smaller tributaries contributed nearly two million acre feet of water per year to Lake Okeechobee on average. That was virtually the same amount of water which flowed south out of the Lake to the Everglades and south Florida.

In 1980, the tributaries to the lake discharged 180,000 acre feet of water into it, or about one tenth of their historic contribution. In 1981, the inflows totaled about 70,000 acre feet, or less than one twentieth of their historic average.

Many south Floridians perceive that there is still a Lake Okeechobee on which they can rely. The lake is valuable as a storage basin, but it does little to generate a water supply for south Florida. The reason is that evapotranspiration from the lake nearly equals rainfall on the lake. Lake Okeechobee contributes water to south Florida almost exactly to the extent that its northern tributaries bring water into it. When Lake Okeechobee supplies water to south Florida in the near absence of resupply from the north, which it has done these last two years, it is lowered ultimately to the point of exhaustion of its ability to discharge southward.

When the Kissimmee was channelized, the hydrologic mechanism which generated the thick mucklands south of the lake was destroyed. The only way to regenerate muck south of the lake is to restore the entire Kissimmee basin as near to its pristine state as possible.

Following removal of the "hump" in the Miami Canal, I would pass Kissimmee-Okeechobee waters *through* the present agricultural area via that canal as slowly as possible into the Holey Land and Rotenberger Tracts. Where possible, good quality waters, which now go to tide and are not necessary to maintenance of marine productivity, should be returned to the Holey Land and Rotenberger Tracts or to Conservation Area Three. The purpose of such rediversions would not be solely to increase the depth of waters in the rainy season, but primarily to extend the period of sheet flow after the end of the rains.

I would sheet the water through Conservation Area Three by culverting its north levee and Alligator Alley; by blocking the Miami Canal, and the Alley's borrow canal and the Conveyance Canal for L-67-A; and by opening the S-12 structures for flow into Everglades National Park.

I would establish hydrologic connections between Area Three and the Big Cypress Preserve. Sheet flow should be reestablished into the North East Shark River Slough. I would refill that portion of Canal 111 which lies under U.S. Highway 1, and all of Canals 109 and 110 which now exist. Additionally, I would restore the Turner River in the Big Cypress Freshwater Preserve.

As the agricultural muck diminishes over the years around the Holey Land and Rotenberger Tracts, the line of refiooding should periodically be moved northward.

These actions can return sheet flow to hundreds and perhaps a thousand square miles of the Everglades system. They can teach us how to restore muck; the water regimes which are required to do it; and how rapidly we can do it with the nutrient-enriched waters available in the system today.

Every objective presented earlier would benefit from these actions.

Conclusions

All of the benefits achieved by this plan of repair would derive from solar energy. The great "River of Grass" served as a giant "solar panel" in the pristine Everglades. All of the rich resources of the Everglades were produced by solar energy operating through its surface sheet flow. The sun is still there.

It is essential that we reestablish conditions which will enable natural processes to provide vital resources which we need, only one of which is an increase in the freshwater supply.

The most significant benefit of the plan, one which is readily comprehensible, is an increase in water retention in the Kissimmee River basin. The only place where we can increase the effective storage capability of Lake Okeechobee is in the Kissimmee basin. The basin drains only into the lake. A gallon of water stored there is much more valuable, and certainly more versatile for use, than one stored in the south end of Conservation Area 3A.

Despite the natural resource problems of south Florida, the Marshall Plan recognizes that the trends there are not necessarily our destiny.

WATER MANAGEMENT AND THE RAIN MACHINE CONJECTURE

James P. Heaney

Director, Florida Water Resources
Research Center
University of Florida

A running account, similar to daily business practices, is maintained for Florida's water budget. *On the average*, the state is blessed with an abundant amount of water. In addition to the annual rainfall of 56.0 inches, an additional 8.8 inches per year enter as river runoff from Alabama and Georgia, providing an annual total of nearly 65 inches. On the debit side, 40 inches of this inflow return to the atmosphere directly as evaporation or as transpiration by vegetation. Approximately 16 inches of the inflow appear as flow in our rivers, while 8 inches soak into the ground to replenish the aquifer. Man diverts about 2.6 inches of water to farms, cities and industries; however, only 0.8 inches are actually consumed. Thus, *on the average*, ample supplies of water are available for our direct needs. In addition, vast reservoirs of underground water exit throughout most of the interior areas of the state.

Unfortunately, the water is not always available when and where we want it. In fact, we find ourselves with too much (flood) or too little (drought) water on a regularly recurring interval of six to ten years. Within a given year, an area can go from drought to flood in a matter of days, as residents of West Palm Beach witnessed in April, 1982. Similarly, water is least abundant along the coastal areas where man has most desired to live. Detailed accounts of the history of water management in Florida are presented in books by Luther Carter, *The Florida Experience* (1970), and Nelson Blake, *Land into Water—Water into*

Land—A History of Water Management in Florida (1980).

Historically, approximately one half of Florida was wetlands. Consequently, the first need for water control was drainage. Initial efforts were piece-meal and numerous drainage districts were established. This early land drainage caused severe problems during the dry season as salt water moved inland and contaminated fresh water supplies. Disastrous flooding in the late 1920s and in 1947 led to the formation of a coordinated plan to interconnect the existing drainage canals and to construct dikes around Lake Okeechobee. The Central and Southern Florida Flood Control District was formed to operate these control structures. Similar flooding in the Tampa area in 1960 led to the formation of the Southwest Florida Water Management District in Brooksville. Thus, the initial purposes of control works installed in many parts of Florida were drainage and flood control.

In the 1970s, environmental protection came to the forefront amid growing concern over the impact of man's activities. Plans to construct the Cross Florida Barge Canal and the Miami Jetport were halted. Many other water management projects were delayed or cancelled; however, the issue went beyond water. Serious concerns were expressed that Florida could not accommodate additional population and economic development without exceeding its safe carrying capacity. Lacking direct means for controlling the population influx, efforts were made to devise planning guidelines to require new developments to be self-sufficient and minimize their off-site impacts. These guidelines required on-site detention of stormwater, limitations on water use to the amount of replenishable rainfall over the area, and specified open space requirements. Given a fixed area of land, rivers, lakes and coastline, and a rapidly growing population, interest in environmental protection will increase. These environmental concerns received national publicity last year in a February 9, 1981, article in *Sports Illustrated* by R. H. Boyle and R. M. Mechem.

Under normal rainfall conditions, Florida has an abundance of water. During the past two years, Florida has been experiencing a drought, which follows on the heels of similar droughts in other parts of the country, especially in California. Problems of water supply are particularly acute in coastal areas due to relatively small, local groundwater aquifers. South Florida is the most vulnerable area because of a relatively limited water supply combined with intense population pressures and large agricultural development. Under drought conditions, Lake Okeechobee supplies about 50 percent of the water supply to southeast Florida. This entire area behaves like a large sponge which slowly dries out if not replenished. Thus, the major canals, which were originally installed for drainage and flood control, provide invaluable arteries for moving water from Lake Okeechobee to the urban and agricultural areas.

The indigenous fish and wildlife, in addition to providing for man's needs during droughts, need water. These so-called "in-stream" uses are protected by guaranteeing minimum flows in important receiving waters such as the Everglades. However, as man continues to enter Florida, conflicts between his needs and the remainder of the ecosystem will intensify. Protection of these in-stream water uses is a major challenge for effective water management.

The Kissimmee River

Water development in the Kissimmee River basin, (Figure 1), vividly illustrates the problems and complexities of water management in Florida. A chronology of water development in the Kissimmee River basin from 1850 to the present is presented in Table 1. During the period from 1850 to 1926, navigation and drainage were the two primary purposes of water control structures. Drainage during this era involved removing standing water from storms with frequencies of once every two to ten years in agricultural areas and ten to twenty-five years in urban areas. Drainage and flood control are not synonymous, as was evident during the devastating hurricanes of 1926 and 1928. Flood control works are designed to safely remove water during storms as rare as once every century. Drought conditions during the 1930s and early 1940s brought about new problems of saltwater intrusion, an inadequate water supply and burning of valuable muck soils. This dry period was followed by yet another disastrous flooding situation in the late 1940s; however, Florida has grown rapidly during the past

thirty years without serious flooding problems. Water management problems of the past decade have focused on drought, deteriorating water quality, protection of fish and wildlife and broader issues of growth management.

The Kissimmee River experience indicates the myopia of single-purpose water control programs. Flood-drought cycles occur regularly, and wetland drainage can have serious unanticipated impacts. Water quality is a growing concern, but no simple solution exists for managing growth on a large scale. Indeed, the need for an ecological perspective seems self-evident. Unfortunately, the assumption that all systems are interdependent does not necessarily provide much guidance in establishing future water policies. As an example, the following planning objectives have been identified in evaluating restoration alternatives for the Kissimmee River (Corps of Engineers, 1980):

1) Restore fluctuating water levels
2) Recreate wetland areas
3) Improve water quality
4) Restore meanders, oxbows and floodplain
5) Improve groundwater recharge
6) Provide flood protection
7) Provide surface water supply
8) Preserve navigation
9) Enhance water/land resources

While such a list is comprehensive, it also illustrates the quandary facing today's water managers—there are no plans which completely satisfy all of these objectives. Thus, we are left with the problem of developing a compromise solution which is technically and politically acceptable. However, as the last ten years of restoration alternatives studies have vividly demonstrated, no easy solution exists. Instead, we may continue making long-term, irreversible decisions based on the water problem of the moment. P. M. McCaffrey in "Politics of the Kissimmee River Survey Review" (1982) presents a cogent summary of political and technical developments relating to the Kissimmee River during the past decade.

The rain machine conjecture

The rain machine conjecture is the latest blending of science and politics related to the Kissimmee controversy. The March 15, 1982, issue of *Sports Illustrated* presents a special report titled, "Anatomy of a Man-Made Drought." According to the article, ecologist Art Marshall asserts that:

1) The Kissimmee Valley suffered a once-in-700-year drought last year, and conditions are going to get worse.
2) This drought was a predictable consequence of land development and drainage that have disrupted the normal rain cycle.
3) Because of drainage, "sheet-flow water isn't present in sufficient quantities to initiate the rain machine the way it used to."
4) Dechannelization of the Kissimmee is the key to repairing the "rain machine."

This article has caused widespread concern that Florida is going to dry up and perhaps become a desert; that the water supply will dwindle to zero; and that the Everglades will be destroyed.

Marshall bases his statements on early work published in 1955 by Garald Parker, a prominent hydrogeologist who did pioneering work on the water resources of south Florida. The more direct source of scientific evidence of the "rain machine" was a 1978 Ph.D. dissertation by Dr. Patrick Gannon, a meteorologist, which dealt with the climate of south Florida. Marshall said that he developed the rain machine conjecture after reviewing the previous work of Gannon and Parker. Gannon's effort was a computer model to simulate rainfall patterns over a *single day*, but the research did not address the Kissimmee basin or make any general statements on the long-term effects of drainage. Parker's work is a very valuable reference; however, it predated the construction of the control works in the Kissimmee basin. He has not published a comparison of the effect of the development in the Kissimmee basin.

Overall, no published work could be found on the rain machine conjecture. Information contained in the Florida Water Resources Research Center was then reviewed. Some points from this review of materials are presented below:

1) Has rainfall been lower since the control works were installed during the 1960s? Rainfall has been below average

Table 1. Chronology of Water Development in the Kissimmee River Basin: 1850-1982

Period	Event
1850	Swamp and Overflowed Lands Act—transferred ownership of vast acreages of Florida wetlands from the Federal government to the state.
1850-1900	Hamilton Disston purchased four million acres of land for 25 cents per acre and began connecting lakes in the Kissimmee Basin with a series of canals to enhance drainage and navigation. Disston intended to dig a canal from Lake Kissimmee to Lake Okeechobee, but died before doing so.
1903	Corps of Engineers initiated work in the Kissimmee via a navigation authorization.
1913	Adoption of the General Drainage Act by the Florida Legislature.
1900-1930	First development boom period ended when the hurricanes of 1926 and 1928 claimed about 2500 lives. Flood control became the issue.
1930	The River and Harbor Act authorized the secretary of war to provide flood control, thereby expanding federal involvement (Tebeau, 1974) amidst severe financial problems besetting the Everglades Drainage Commission.
1930-1945	Extensive flood control improvements installed by the federal government around Lake Okeechobee. Excessive dry spells during the years 1931 through 1945 introduced new problems. Groundwater levels became so low that saltwater contamination threatened municipal wells of coastal cities. Normally wet muck soils became drier and began burning, consuming precious muck soils (Smith, 1980).
1947-1948	Extensive flooding caused by hurricanes left standing water covering as many as five million acres (Tebeau, 1974).
1948-1949	U.S. Corps of Engineers submitted comprehensive water control plans to Congress on April 26, 1948. The state legislature created the Central and Southern Florida Flood Control District.
1954	Congress authorized channelization of the Kissimmee River. Construction of the Kissimmee Canal, termed C-38, began in 1962 and was completed in 1971 at a cost of nearly $24 million (McCaffrey *et al*, 1980).
1950-1969	Rapid population growth in south Florida stimulated interest in managing the protective works to ensure a dependable water supply.
1969	The National Environmental Protection Act required that damage to the environment be considered when making water management decisions (Smith, 1980).
1970-1971	The extreme drought of 1971 heightened awareness of water supply and environmental problems. The 1971 *Governor's Conference on Water Management in South Florida* concluded that water quality was steadily deteriorating in practically all aquatic systems in south Florida, and that water quantity was not being managed to ensure a minimum adequate supply during droughts.
1973	Florida Legislature created "Special Project to Prevent the Eutrophication of Lake Okeechobee." General concern was that drainage in the Kissimmee was allowing nutrients to be washed from the lands and into Lake Okeechobee. These additional nutrients accelerate the aging process of the lake. Pressure was mounting to "restore" the Kissimmee by dechannelizing it (McCaffrey, *et al*, 1980).
1976	Florida Legislature adopts the Kissimmee River Restoration Act.
1978	Congress authorizes the Corps of Engineers to conduct a survey review of the Kissimmee River.
1971-1980	Numerous studies are undertaken on how to reduce nutrient loads from the Kissimmee River into Lake Okeechobee. Diminished concern about flood control and drainage as rainfall levels are below normal.
1980-1982	Drought returns to south Florida. Cries to dechannelize the Kissimmee continue.

through most of Florida from 1970 to 1980. In the southern part of the state, the average annual rainfall was 50.24 inches, 5.47 inches less than the long-term (90-year) average of 57.71 inches.

2) Is there a continuing trend toward less rainfall? Review of the 1970-1980 records indicates no obvious trend. Hurricanes and tropical storms accounting for 0 to 8 inches of rain per year were notably absent in the 1970s (Brandes, 1981), which is a major reason for lower rainfall in the past decade.
3) Does land drainage affect rainfall? According to the "rain machine" conjecture, land drainage lowers water levels, thereby reducing evaporation to the atmosphere and making less water available to trigger subsequent rainfall. This theory is difficult to address. Virtually all of southern Florida once was wetlands. However, the Kissimmee basin is *not* dominated by wetlands. Thus, drainage in this basin (50,000 acres) does *not* affect the overall acreage of wetland drainage substantially. In fact, much of this drainage could have been accomplished without the Kissimmee River project. Consequently, it is difficult to conceive how channelization of the lower Kissimmee River could have a significant effect on rainfall in south Florida.

As with other water management issues throughout Florida, final resolution of the Kissimmee River conflict will occur through a complex interplay of scientific, engineering, economic and socio-political considerations. Environmentalists such as Marshall challenge the scientific community with projections of some of the adverse potential impacts of development. While his feelings regarding the relationship between dechannelization of the lower Kissimmee River and south Florida rainfall cannot be substantiated by my review, the *Sports Illustrated* article has stimulated discussion regarding the potential for long-term changes in components of the hydrologic cycle due to large-scale drainage in Florida.

Interestingly, in a six-week period since the *Sports Illustrated* article, rainfall has been above normal and localized flooding has occurred in the West Palm Beach area.

Summary and conclusions

Navigation and drainage were water problems facing early settlers in Florida. Flood control became the next key issue, followed by drought and saltwater intrusion. During the past fifteen years, concern has shifted to environmental protection, including water quality control and protection of wetlands. Pressures to foster economic development in Florida are now counteracted by environmental groups who fear we are despoiling our own nest.

Water development in the Kissimmee River basin illustrates the quandary facing contemporary water managers. The momentum of a century of efforts to tame the Kissimmee led to the installation of flood control and drainage works in the 1960s. Opposition to this project has continued unabated for the past twenty years. However, no general consensus has been reached on how or whether to restore this area. Pressure to act is proportional to the seriousness of the most recent water problem, whether it is water quality control, drought management or flood control. Hopefully, the scientific and technical community has learned some valuable lessons in the process. We must be very careful to distinguish the measurements of how water systems perform (lake stages, water flow rates, pollutant concentrations) from value judgments on how such systems *should* perform. It is in this latter area where the distinctions between "objective" technical findings and personal opinions become blurred. Similarly, professionals need to view the public-decision-making process as a positive one in spite of seemingly endless delays and the sometimes arbitrary outcome. The conflicts between pro- and anti-development forces are real, but they can lead to a creative tension when the arguments of each side are represented. Whether the conflict resolution is conducted in a fair manner is the challenge to our elected and appointed officials. However, much progress has been made in this area during the past ten years.

Overall, our water problems will grow in complexity. We must be prepared to meet the challenges by more effectively merging the technical, economic, financial, environmental and socio-political aspects of these issues.

WATER MANAGEMENT FOR DROUGHT AND FLOOD CONTROL

Margaret Yansura

Public Information Officer
South Florida Water Management District

The human mind is often nearsighted, focusing only on that which is in the immediate field of vision while the larger, more distant picture remains blurred and indistinguishable.

Unfortunately, much of the response to the recent water shortage which plagued most of Florida and, in fact, the whole southeastern United States for the past two years or so, appears to have been in this vein.

It is like the luckless man in Jack London's "To Build a Fire" who worked feverishly to build a fire only to have it immediately extinguished by the melting snow from the tree overhead.

As the regional manager of south Florida's freshwater resources, the South Florida Water Management District, like London's fictional character, cannot afford such a parochial view if it is to ensure an adequate water supply for south Florida's future.

In dealing with the recent drought, which brought a water shortage and water use restrictions to millions of south Florida residents, the District took steps to alleviate the problem but carefully avoided overreacting to the situation for fear of jeopardizing other valid objectives, including flood control.

Causes of recent drought: channelization versus deficient rainfall

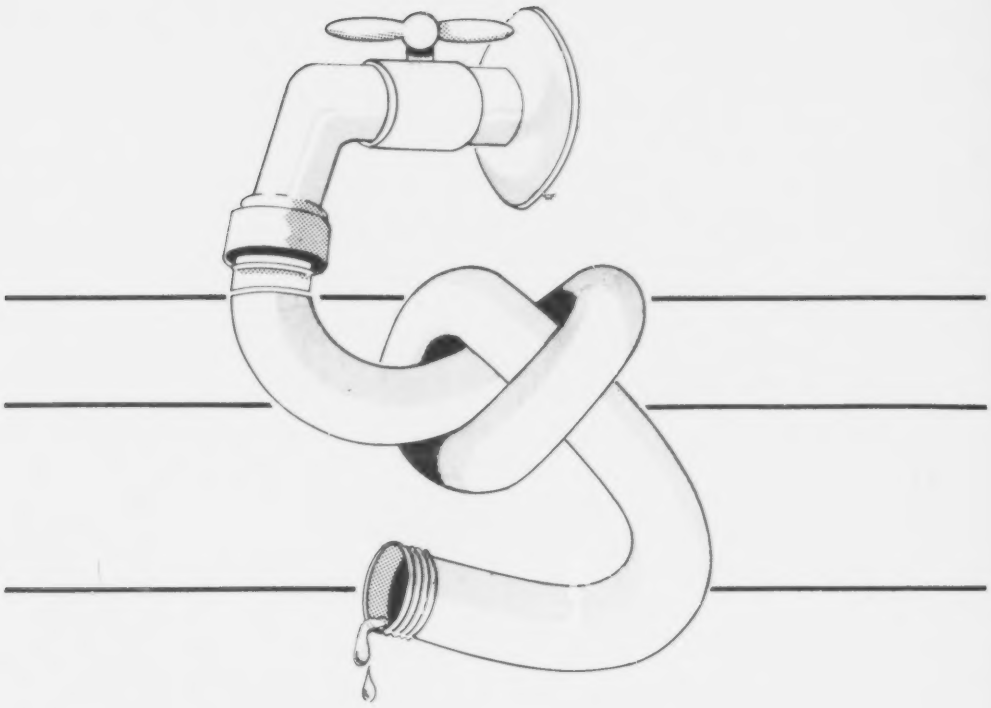
During the recent drought much talk was generated, and then promulgated by the media, that south Florida might be entering a period of permanently deficient rainfall as a result of man's tampering with the natural system.

Studies of historical rainfall records, however, show that the recent drought is similar to other rainfall deficiency periods experienced throughout the history of this region.

Furthermore, although these same records show that amounts of annual rainfall have generally been decreasing over the past few decades, studies by District personnel and other outside researchers correlate this pattern with a decline in tropical storm and hurricane activity in this area over the same span of time, rather than with any alterations by man to the natural water system.

One team of scientists, Dr. James Heaney, director of the University of Florida's Water Resources Research Center and a professor in its Department of Environmental Engineering; Dr. Wayne Huber, also a professor at the University of Florida; and Dr. C. L. Jordan, the State Climatologist affiliated with Florida State University, presented their findings to the South Florida Water Management District Governing Board at its April meeting.

The Heaney, Huber and Jordan team began their independent evaluation in response to published reports alleging that the channelization of the Kissimmee River, completed in the early 1970s, had significantly reduced the amount of surface water evaporation in that area and, therefore, severely impacted the amount of rainfall generated in that region.



In his comments to the governing board, Dr. Jordan discounted the impact of local showers on annual rainfall totals.

"During the warm season, local showers are much more important in providing rain but most of the heavy rainfall events are usually associated with organized tropical systems in the form of hurricanes, tropical storms and weaker disturbances," he said.

In the decade from 1951-60, eight hurricane and tropical storm events occurred in this area with an annual average rainfall input of 4.7 inches, he said. In the 1971-80 decade, however, only three storms occurred with almost no impact on annual rainfall totals, Dr. Jordan told the Board.

"This would suggest that perhaps half of the decline in rainfall at inland stations might be attributable to changes in hurricane frequency," Dr. Jordan said.

Jordan, like his fellow scientists Heaney and Huber, and other researchers at the South Florida Water Management District, points to the absence of tropical frontal activity as the cause of deficient rainfall, rather than the absence of surface water evaporation.

"Evaporation of water into the atmosphere is normally a slow and continuous process and the water vapor is often carried for days and thousands of miles before being released as precipitation," Dr. Jordan said. ". . . I would, therefore, be very surprised to find that variations in local evaporation have any measurable influence on rainfall in south Florida."

Both the university researchers and their colleagues at the District agree that their findings are only preliminary and that further scientific inquiry should be pursued on the entire subject of long-term rainfall trends and their causes.

In that spirit, District personnel, along with Heaney, Huber and Jordan, participated in a symposium on the hydrogeology of Florida on May 12-13, sponsored by the University of Florida Water Resources Research Center, and in another May 14 meeting on the hydrology and meteorology of south Florida.

Although the recent drought has been the focus of much of the District's latest efforts, floods are always waiting in the wings and the South Florida Water Management District must deal effectively with both extremes.

From flood control to water resource management

Agencies which preceded the South Florida Water Management District, including

the Everglades Drainage District and the Central and Southern Florida Flood Control District, were created in response to crises.

The Everglades Drainage District was formed in 1907 by the state legislature following frustration with the attempts by private enterprise to effectively manage drainage of south Florida for development.

A more dramatic crisis, the hurricane of 1946, precipitated the creation of the Central and Southern Florida Flood Control District, which was to act as the local sponsor for the federal flood control project from which its name was derived.

However, both of these early agencies were primarily concerned with removing water from the land so it could be developed and then protecting those developments from flood waters.

It took another crisis, namely the record drought of 1970-71, before the official water management agency in south Florida was formed to take on the whole range of water management responsibilities required for both present and future wise use of the resource.

Following a Governor's Conference on Water Management, the state legislature passed the Water Resources Act in 1972.

This act created the South Florida Water Management District and four other water management districts in the state, and charged them with the control and regulation of ground and surface water supplies and their use.

Water supply planning

Following that direction, the District prepared individual Water Use and Supply Development Plans for three distinct geographical areas within its boundaries: the upper east coast, the lower west coast and the lower east coast/Lake Okeechobee system.

In each plan, present and projected future water uses are discussed. Furthermore, recommendations are made on planning for future wellfield development; water-use demand reduction in times of water shortage; and exotic means of enhancing water supplies, including desalinization, demineralization, dual conveyance, wastewater reuse and deep aquifer storage.

For each planning area, water conservation through education of the public is recommended as one of the best methods of insuring an adequate water supply during times of drought. Water conservation is stressed because it encourages public participation in management of the resource, can be implemented quickly and with little cost and is considered wise behavior even in times of adequate water supply.

The water shortage plan

During the recent drought, the District formulated a Water Shortage Plan, which was adopted as a rule by the District Governing Board at its April, 1982 meeting.

Under the Water Shortage Plan, all water users within a described water supply area would be placed under uniform water use restrictions once a water shortage is declared in that area. Although recent rains greatly decreased the likelihood that water restrictions would be implemented, the Water Shortage Plan is now a tool which can be used by the District whenever water conditions warrant such action.

The reason that water conservation is stressed during times of water shortage, rather than exotic, water-supplementing techniques such as those mentioned above, has mostly to do with cost.

The District is supported by property taxes levied within its boundaries. Therefore, the cost effectiveness of all District programs is paramount.

Although technology exists to supplement our natural freshwater supplies through desalinization (the conversion of salt water to fresh water) and deep aquifer storage (the pumping of fresh water into the deep saltwater aquifer for retrieval later), such techniques are exceedingly expensive.

For example, in the city of Key West, which is supplied primarily by water from a new desalinization plant, consumers have the highest water bills in the country, paying about five times the average price nationwide for water.

Large-scale implementation of such exotic technology is viewed by the District as an overreaction to drought—only one side of the hydrologic cycle in south Florida.

Water supply planning for the future

Other steps taken recently by the District to augment regional water supplies include ini-

tiation of a water supply backpumping program scheduled for four coastal canals in Palm Beach, Dade and Broward counties, and the raising of the regulation schedule of Lake Okeechobee by two feet.

Another way the District is working to protect our freshwater supply for present and future needs is through the Save Our Rivers land acquisition program.

Over the next five years, the District is expected to have about $46 million generated through the "Save Our Rivers" Documentary Stamp Tax program with which it will purchase lands needed to protect the water supply within this region. The five-year acquisition plan approved by the District Governing Board in the fall of 1981 calls for the purchase of total or partial interest in more than 200,000 acres of prime wetlands.

But what about future growth? Will the amount of water supplied through rainfall be enough to satisfy the growing demands of south Florida, one of the fastest growing population areas in the United States?

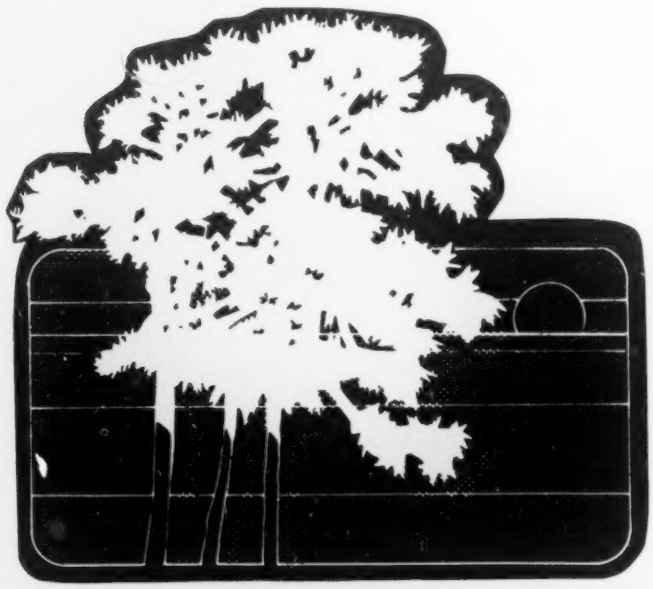
One step taken by the District to insure that development does not adversely affect freshwater supplies was the implementation of its regulatory program in 1974.

Under the regulatory program, which was authorized by the Water Resources Act of 1972, all consumptive withdrawals from surface and underground water supplies must be permitted. In this way, the District can catalogue and control the amount of water used from the system.

Another part of the regulatory program involves controlling development so that a sufficient amount of stormwater runoff is returned to the natural system, rather than funneled into sewers where it is lost to the system. Through this surfacewater management permitting program, the District is able to direct development so that minimal impacts to the water supply result, while insuring proper flood control protection.

Most land-use decisions, however, are made at the local level. As a result, the District employs a special projects planning staff which works closely with local government to coordinate local planning goals and objectives with the water quantity and quality objectives of the District.

Members of this special planning staff perform a number of functions, including advising regional planning councils on developments of regional impact, and reviewing local zoning codes and comprehensive land use plans, all with an eye toward the larger picture of improving and protecting the present and future water supply of south Florida.



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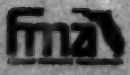

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Florida's Changing Population

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Introgram

This issue of *Dimensions* examines the ever-changing nature of Florida's population. In the years of the 20th century, virtually every facet of Florida's population has been altered dramatically from the scenario of 1900. The first article provides an overview of demographic change in Florida during the past 80 years, while the second article focuses on what Floridians are like based on data from the U.S. Census on the social, economic and housing characteristics of the state's population. Next, statewide trends in population are analyzed at the county level. The fourth article reviews the increasing impact of Florida's older population on the state's economy. Finally, a closer look is taken at the growing influence of foreign-born residents on our state.

The characteristics of Florida's population will continue to evolve as we near the end of the 20th century. *Dimensions* will continue to examine various aspects of Florida's diverse demographics in future issues.

Florida in the 20th Century: A Survey of Demographic Change

Stanley K. Smith

Population Program Director

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University of Florida

In 1900 Florida was the smallest state in the South, with a population barely more than half a million. By 1980, its population had grown to almost ten million, making it the second largest state in the South (trailing only Texas) and the seventh largest in the United States. This article will discuss the major demographic determinants and consequences of Florida's population growth during the twentieth century, focusing on the changing distribution of population throughout the state, the components of population growth, the demographic consequences of population growth and the prospects for future growth. All data refer only to the permanent resident population; tourists and seasonal residents are not included.

Florida's population growth since 1900 is summarized in Tables 1 and 2. Population growth rates have been very high, ranging between 30 and 80 percent per decade, much higher than the 10 to 20 percent growth rates for the United States. In fact, Florida's growth rates have at least doubled the U.S. growth rates for every decade of this century. The decade with the highest growth rate was 1950-1960, when Florida's population grew by almost 80 percent. The decade with the greatest increase in number of residents, however, was the 1970s. Between 1970 and 1980, the Florida population grew by almost three million persons, which was the largest increase of any state except California and Texas. Florida's growth rate of 43.5 percent between 1970 and 1980 was also the third largest, trailing only Nevada and Arizona. Of the ten largest states, only Florida grew by more than 30 percent between 1970 and 1980.

The geographic distribution of Florida's population has changed dramatically during the twentieth century. Some areas of the state have grown by leaps and bounds, while others have stagnated. With reference to Stanton Dietrich's historical study of county boundaries and population, the state has been divided into three regions in Figure 1. The lower boundary for the northern region is the northern borders of Levy, Marion and Volusia counties. The upper boundary of the southern region is the northern borders of Lee, Hendry and Martin counties. The central region comprises all counties in between. These regional divisions permit a consistent series of population counts back to 1900, when there were only forty-five counties in Florida rather than the present sixty-seven.

In 1900, two-thirds of Florida's residents lived in the northern region and only 5 percent lived in the southern region. Duval was the largest county, with a population of 39,733. Dade County, which at that time included present-day Dade, Broward, Palm Beach and Martin counties, had fewer than 5,000 residents. Since 1900, a tremendous southward shift has occurred. Growth rates per decade in the southern region have been between 45 and 170 percent, and between 10 and 40 percent in the northern region. Decade growth rates for the central region have generally fallen between these two extremes. The northern region had the lowest growth rate in every decade of this century, while the southern region had the highest rate in every decade except the 1970s, when the central region grew slightly more rapidly.

Table 1.—Population of Florida: regional and statewide, 1900-1980

Number

	1900	1910	1920	1930	1940	1950	1960	1970	1980
North	349,593	458,356	520,484	606,322	723,465	951,332	1,302,820	1,542,567	1,926,777
Central	152,917	248,896	352,354	606,959	738,207	1,052,561	2,008,377	2,776,230	4,161,665
South	26,032	45,367	95,632	254,930	435,722	762,412	1,640,363	2,472,621	3,657,882
FLORIDA	528,542	752,619	968,470	1,468,211	1,897,414	2,771,305	4,951,560	6,791,418	9,746,324

Percent

	1900	1910	1920	1930	1940	1950	1960	1970	1980
North	66.1	60.9	53.7	41.3	38.1	34.3	26.3	22.7	19.8
Central	28.9	33.1	36.4	41.3	38.9	38.0	40.6	40.9	42.7
South	4.9	6.0	9.9	17.4	23.0	27.7	33.1	36.4	37.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: T. Stanton Dietrich. The Urbanization of Florida's Population: An Historical Perspective of County Growth 1830-1970. Bureau of Economic and Business Research, University of Florida, 1978, pp. 20-27.

U.S. Bureau of the Census. 1980 Census of Population and Housing, Summary Tape File 1-A.

Table 2.—Population growth rates of Florida: regional and statewide, 1900-1980

Decade	Florida	North	Central	South
1900-1910	42.4	31.1	62.8	74.3
1910-1920	28.7	13.6	41.6	110.8
1920-1930	51.6	16.5	72.3	166.6
1930-1940	29.2	19.3	21.6	70.9
1940-1950	46.1	31.5	42.6	76.1
1950-1960	78.7	36.9	90.8	113.8
1960-1970	37.2	18.4	38.2	50.7
1970-1980	43.5	24.9	49.9	47.9

Source: T. Stanton Dietrich. The Urbanization of Florida's Population: An Historical Perspective of County Growth 1830-1970. Bureau of Economic and Business Research, University of Florida, 1978, pp. 20-27.

U.S. Bureau of the Census. 1980 Census of Population and Housing, Summary Tape File 1-A.

The southward movement of Florida's population accelerated during the 1920s, when Florida's first major real estate boom took place. According to Frederic Lewis Allen in *Only Yesterday*:

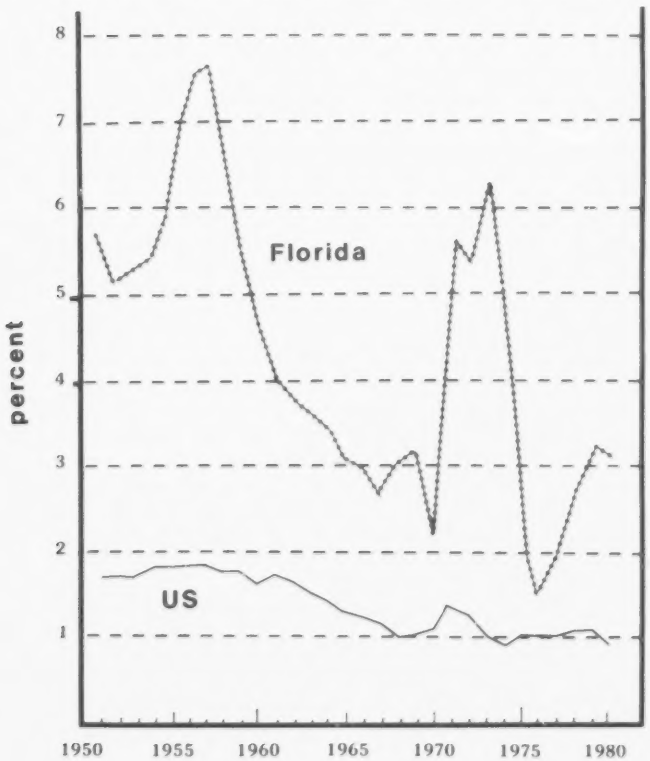
> Everybody was making money on land, prices were climbing to incredible heights, and those who came to scoff remained to speculate (p. 227). By 1925 they were buying anything, anywhere, so long as it was in Florida. One had only to announce a new development, be it honest or fraudulent, be it on the Atlantic Ocean or deep in the waste land of the interior, to set people scrambling for house lots (p. 230).

Most of this boom was in central and southern Florida. During the 1920s the southern region grew by 160,000 residents, an increase of almost 170 percent. The central region grew by more than 250,000 residents, an increase of 72 percent. The northern region grew by only 85,000 residents, or 17 percent.

Other rapid expansions occurred during the 1950s and 1970s. The southern region more than doubled between 1950 and 1960, adding almost 900,000 residents to its rapidly increasing total. The central region almost doubled, growing by just under a million. The northern region continued to lag, growing by 350,000, or less than 40 percent. During the 1970s the central region had the highest growth rate for the first time in this century. It increased by 50 percent, barely faster than the southern region. The central region increased by almost 1.4 million residents, the southern region by almost 1.2 million. The northern region increased by just under 400,000, a growth rate of 25 percent.

Figure 1.—Map of Florida and its regions

Figure 2.—Annual population growth rates of Florida and the United States: 1950-1980



The large majority of Florida's population growth since 1900, then, has been in the central and southern regions of the state. By 1980, 43 percent of the state's population lived in the central region, 37 percent in the southern region and 20 percent in the northern region. South Florida now has the two most highly populated counties in the state, and three of the top ten. Central Florida has six of the top ten, while north Florida has only one of the ten largest counties in the state. In 1900 the northern region had seven of the top ten.

Components of growth

While Florida's long-term growth has been rapid during the twentieth century, there have been very substantial year-to-year fluctuations. Growth rates have been high in some years and low in other years. Figure 2 shows annual population growth rates for Florida and the United States since 1950. For the United States, annual growth rates have declined fairly smoothly from around 1.8 percent in the mid-1950s to around 1.0 percent in the late 1970s. Florida's growth rates have not followed such a steady path. From around 5 percent in the early 1950s, annual growth rates rose to almost 8 percent in the late 1950s, declined to less than 3 percent in the late 1960s, increased to 6 percent in the early 1970s, plummeted to less than 2 percent in the mid-1970s and rebounded to over 3 percent by the late 1970s.

What has caused this tremendous volatility in annual population growth rates? To answer this question we must look at the components of growth. There are only three components of population growth: births, deaths, and migration. A population expands through births and inmigration and declines through deaths and outmigration. The overall expansion or decline of a region's population depends on the relative magnitude of the number of births, deaths and people moving into and out of the region.

The annual number of births in Florida has been quite stable over the last twenty years, fluctuating mostly between 100,000 and 120,000 per year. During the same time, the annual number of births nationally declined by 20-25 percent. The annual number of

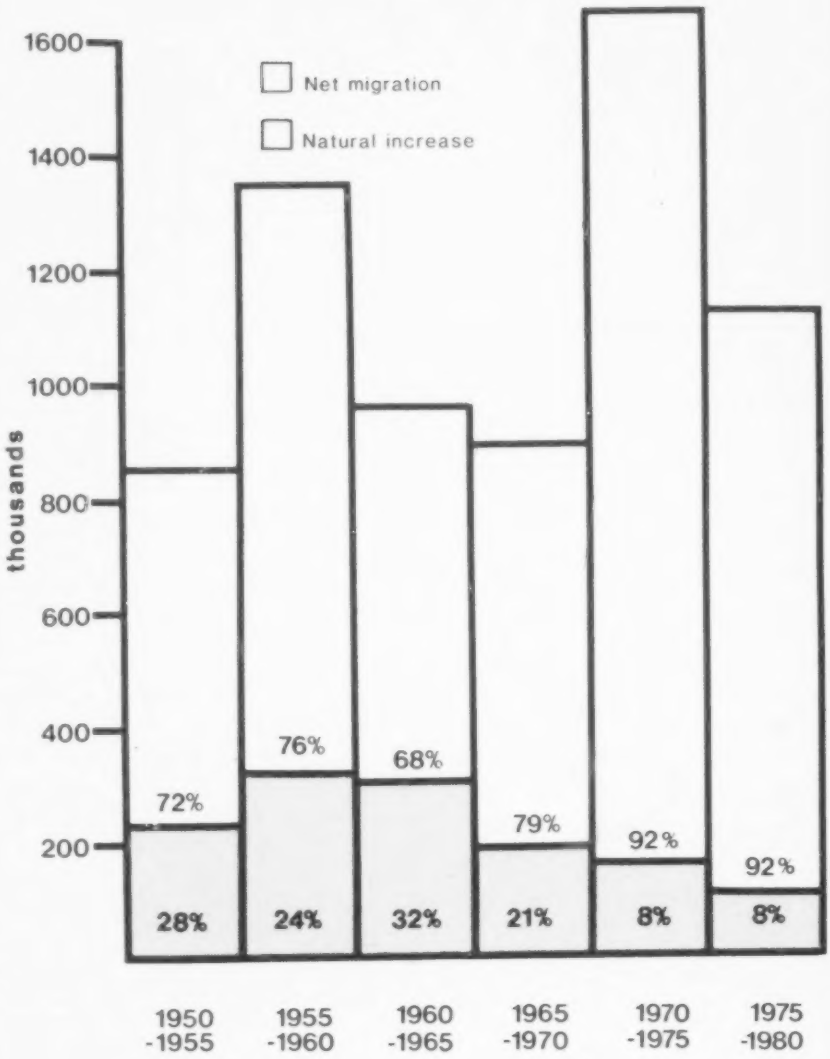
births in Florida has remained fairly constant because the increase in the number of women of childbearing age has been offset by a decline in the average number of births per woman. Since birth rates have now apparently stopped moving downward (and may even be moving upward) the annual number of births in Florida is likely to increase during the 1980s. This trend is already becoming apparent, as the number of births in Florida exceeded 130,000 in both 1980 and 1981.

While the annual number of births has remained fairly constant in Florida over the last twenty years, the annual number of deaths has increased rapidly. In 1981 there were more than 110,000 deaths in Florida, compared to 48,000 in 1960. There are two reasons for this increase. One is the much larger population, which has doubled over the last twenty years. When a population increases rapidly while individual mortality rates decline slowly, the number of deaths rises. The other reason is the continued aging of Florida's population. The proportion of the population age 65 and older has increased steadily in Florida. Since mortality rates are much higher for older than younger people, an older age structure adds to the annual number of deaths.

The difference between the number of births and the number of deaths is called the natural increase of a population. Since the annual number of deaths has increased rapidly while the annual number of births has remained fairly stable, the natural increase of Florida's population has declined steadily over the last twenty years. From almost 70,000 in 1960, natural increase declined to less than 20,000 in the late 1970s and to around 25,000 last year. Unless a substantial reversal occurs, it is likely that Florida will have more deaths than births by the late 1980s or early 1990s. This situation already occurs in thirteen of Florida's sixty-seven counties.

If natural increase is very small (or negative), it follows that population growth must depend primarily (or totally) on the third component of population growth, which is migration. Net migration is the difference between the number of people moving into a region and the number moving out. The net migration stream into Florida in recent decades has been huge: more than 1.6 million during the 1950s, more than 1.3 million during the 1960s and more than 2.7 million during the 1970s. The net migration stream into Florida during the 1970s was almost twice as large as that for the second-ranked state, California.

Figure 3.—Natural increase and net migration, Florida: 1950-1980



Net migration accounts for more than 90 percent of Florida's population growth. As shown in Figure 3, this proportion has gone up considerably during the last thirty years. If our projections are correct, net migration will account for all of Florida's population growth by around 1990.

Table 3.—Distribution of Florida population by sex and race, 1900-1980

Number

	1900	1910	1920	1930	1940	1950	1960	1970	1980
Male	275,246	394,166	495,320	737,675	943,123	1,366,917	2,436,783	3,275,571	4,675,626
Female	253,296	358,453	473,150	730,536	954,291	1,404,388	2,514,777	3,513,872	5,070,698
White	297,333	443,634	638,153	1,035,390	1,381,986	2,166,051	4,063,881	5,719,343	8,184,513
Black	230,730	308,669	329,687	431,828	514,198	603,101	880,186	1,041,651	1,342,688
Other	479	316	830	993	1,230	2,153	7,593	28,449	219,123
Total	528,542	752,619	968,670	1,468,211	1,897,414	2,771,305	4,951,560	6,789,443	9,746,324

Percent

	1900	1910	1920	1930	1940	1950	1960	1970	1980
Male	52.1	52.4	51.1	50.2	49.7	49.3	49.2	48.2	48.0
Female	47.9	47.6	48.9	49.8	50.3	50.7	50.8	51.8	52.0
White	56.3	58.9	65.9	70.5	72.8	78.2	82.1	84.2	84.0
Black	43.7	41.0	34.0	29.4	27.1	21.8	17.8	15.3	13.8
Other	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.4	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: U.S. Bureau of the Census, General Population Characteristics, Florida 1970. PC(1)-B11, 1971, p. 60.

U.S. Bureau of the Census, 1980 Census of Population and Housing, Summary Tape File 1-A.

Table 4.—Distribution of Florida population by age, 1950-1980

Number

Age	1950	1960	1970	1980
<15	725,803	1,466,814	1,749,907	1,876,774
15-24	395,027	633,664	1,073,293	1,622,767
25-54	1,176,985	1,835,410	2,270,615	3,439,349
55-64	236,016	462,543	706,262	1,119,861
65+	237,474	553,129	989,366	1,687,573
Total	2,771,305	4,951,560	6,789,443	9,746,324

Percent

Age	1950	1960	1970	1980
<15	26.2	29.6	25.8	19.3
15-24	14.3	12.8	15.8	16.7
25-54	42.3	37.1	33.4	35.3
55-64	8.6	9.3	10.4	11.5
65+	8.6	11.2	14.6	17.3
Total	100.0	100.0	100.0	100.0

Source: U.S. Bureau of the Census, General Population Characteristics, Florida 1970. PC(1)-B11, 1971, p. 69.

U.S. Bureau of the Census, 1980 Census of Population and Housing, Summary Tape File 1-A.

Not only are annual levels of net migration very high, but they are very volatile as well. During the "boom" years of the early 1970s, net migration into Florida was 350,000 to 450,000 per year. During the "bust" years of the mid-1970s, net migration was only 100,000 to 150,000 per year.

What causes this tremendous variability? Annual levels of net migration are so volatile because migration decisions are strongly affected by wage rates, unemployment rates, interest rates and housing markets. These economic variables fluctuate a great deal from year to year because of changing economic conditions. Population growth rates in Florida thus vary a great deal from year to year because net migration accounts for the vast majority of Florida's population growth, and annual levels of net migration are strongly affected by economic conditions which change substantially from year to year. Population

growth in Florida is volatile because economic growth is volatile

Demographic consequences of population growth

Florida's rapid population growth during the twentieth century has been primarily the result of large numbers of people moving into the state. These migrants affected not only the size of Florida's population, but its demographic structure as well. Tables 3 and 4 describe some of the changes in the sex, race and age structure of Florida's population that have occurred during the twentieth century.

Since 1900, Florida's population has changed from predominantly male to largely female. In 1900, there were almost 109 males for every 100 females. By 1980, this relationship was reversed, and there were more than 108 females for every 100 males. This reversal mirrors quite closely the trend for the United States, although the change has been somewhat more pronounced in Florida. The numerical dominance of females over males is largest in the older age groups. Above age 65 there are 132 women for every 100 men in Florida; above age 85 there are 173 women for every 100 men.

There has also been a major change in the racial structure of the state. In 1900, 56 percent of Florida's population was white and 44 percent was black. Since 1900, the proportion of blacks has declined steadily. Although the number of blacks increased in every decade, the number of whites increased much more rapidly. By 1980, whites made up 84 percent of Florida's population and blacks only 14 percent. This decline in the proportion of blacks was caused partly by their outmigration from the state, but a much more important factor was the high rate of inmigration of whites. The vast majority of those moving to Florida during the twentieth century have been white.

Perhaps the most important demographic change in Florida during the twentieth century has been the shift in age structure. In 1900 the median age of Florida's population (the age at which half are younger and half are older) was 20.4. Florida's population was actually younger than the United States population, for which the median age was 22.9. For the next fifty years, the populations of both Florida and the United States became considerably older. By 1950 the median age was 30.9 in Florida and 30.2 in the United States, and the state's age structure was very similar to that of the United States: 26.2 percent of Florida's population was younger than age 15 and 8.6 percent was age 65 and older, compared to 26.9 percent and 8.2 percent respectively for the United States.

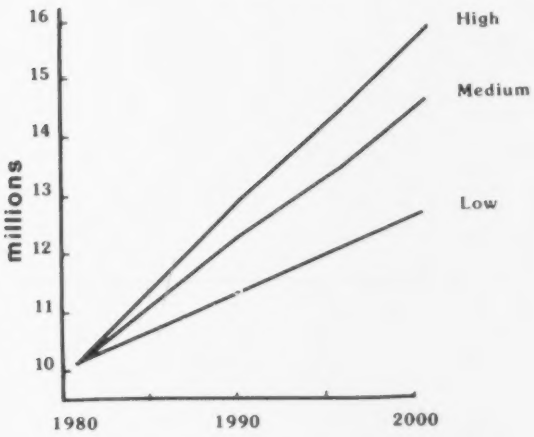
Then a tremendous change occurred. The national population became younger while Florida's population became older. The median age of the United States population declined to 28.0 by 1970, while Florida's rose to 32.3. The median age of the United States population declined because of the baby boom, which greatly increased the number of younger persons. While Florida also experienced a baby boom, its effect on the median age was more than offset by high rates of inmigration of older persons.

Since 1970 the populations of both Florida and the United States have become older. The national population became older because birth rates declined rapidly during the 1970s. The Florida population became older not only because of declining birth rates but also because of continued high rates of inmigration of older persons. The median age of the United States population rose to 30.0 in 1980, about the same as it was in 1950. The median age of Florida's population rose to 34.7 in 1980, the highest in its history and the highest in the nation. Florida currently has a higher proportion of its population in the older age groups than any other state: 17.3 percent of Florida's population is age 65 and older, compared to 11.3 percent for the United States. Some of the implications of this large elderly population are discussed elsewhere in this issue (Osterbind, p. 19).

The future

People are fascinated by the future. Palm readers, astrologers and crystal ball gazers down through the centuries have found eager buyers for their predictions. Modern-day researchers and forecasters, using computers and large-scale models, continue to find willing audiences for their forecasts. Yet the future is essentially unknowable. No matter how sophisticated and scientific our techniques, we cannot predict the future with a high degree of certainty. A person surveying

Figure 4.—
Projections of Florida's population: 1985-2000



the Florida scene in 1900 could not have guessed the tremendous demographic changes that were to occur during the following decades. The same is true for 1982: we cannot perfectly foresee the demographic changes that will occur during the remainder of the twentieth century.

We are not completely lost, however. While we cannot actually see into the future, we can observe the trends that have occurred in the past. We can build models of change based on these trends and the relationships observed among a number of important variables. Using these models, we can project the future changes that would occur under different sets of assumptions. Although they do not provide foolproof predictions of the future, properly built projection models can provide very useful tools for planning for the future.

Projections of Florida's population through the remainder of this century are shown in Figure 4. Three different projections are shown, based on three different assumptions regarding migration into Florida. The low assumption implies net migration of 160,000 to 180,000 per year, similar to the average in the 1960s and the slow growth years of the 1970s. The medium assumption implies net migration of 250,000 to 280,000 per year, similar to the average during the 1970s. The high assumption implies net migration of 315,000 to 350,000 per year, similar to the average of the high-growth years during the 1970s. All three projections use the same assumptions regarding fertility and mortality. The specific fertility and mortality assumptions employed have little effect on the projections since natural increase accounts for such a small proportion of total population growth.

These projections give three alternate scenarios of future population growth in Florida. By 1990 the Florida population is expected to range between 11.3 and 12.9 million, and by 2000 it is expected to be between 12.7 and 15.9 million. While these low and high projections do not represent absolute limits to future population growth for the remainder of this century, it is unlikely that Florida's population will fall outside this range. The medium projection is our best-guess projection, and is more likely to be an accurate forecast of future population growth than either of the other two projections. If the medium projection proves to be reasonably accurate, Florida's population will surpass that of Ohio, Illinois and Pennsylvania by 1990, making Florida the fourth largest state in the nation. It is unlikely that this ranking will change further by 2000, as California, New York and Texas are far ahead of Florida in population.

The future, then, will almost certainly bring continued rapid population growth to the state. Floridians hold vastly differing views regarding the effects of this growth. Some people believe population growth to be a tremendous benefit, adding greatly to the economic, political and cultural life of the state. Others believe it to be a tremendous burden, creating pollution, congestion and increased demand for public services. Both these views contain elements of truth: rapid population growth has the potential for both positive and negative effects on the quality of life in Florida. The critical issues are whether the positive effects outweigh the negative effects and how the benefits of growth are distributed. The answers to these questions will depend on the ability of Floridians to understand and plan for the effects of rapid population growth and demographic change. It is the opportunity and the responsibility of the people of Florida—through their elected and appointed representatives at the state and local levels—to ensure that the benefits of future population growth are maximized and the costs are minimized.

A Profile of Florida's Population

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Population Program Director

Bureau of Economic and Business Research
University of Florida

It is well known that Florida's population has grown very rapidly in recent years. But what are Floridians like? Do they tend to be young or old? Married or single? Working or retired? Well-educated or uneducated? Rich or poor?

A study of 1980 Census results provides answers to these and other questions regarding the demographic and socioeconomic characteristics of Florida's population. The data discussed in this article were compiled from *Provisional Estimates of Social, Economic and Housing Characteristics*, recently published by the United States Bureau of the Census (PHS80-S1-1). These numbers were taken from a small sample of census questionnaires and are only provisional; final numbers which will become available at a later date will likely be somewhat different. All data are for 1980 except income, which is for 1979.

Demographic characteristics

Florida has the oldest population of any state in the nation. The median age is 34.7, which means that half the population is younger than 34.7 and half is older. This

figure is considerably higher than in Pennsylvania and New Jersey, which have the second-highest median age (32.2). The national median age is 30.0. Florida also has the largest proportion of the population in the older age groups, with 17.3 percent over age 65, compared to the second-highest proportion of 13.7 percent in Arkansas, and the national average of 11.3 percent. Utah is the nation's youngest state with a median age of 24.2 years and 31.6 percent of the population younger than age 15. Florida's percentage of children is the smallest of any state's, with only 19.3 percent of the population younger than age 15.

Whites comprise 84.0 percent of the Florida population, blacks 13.8 percent and other races 2.2 percent. The white population is considerably older than the black population. For whites, 17.3 percent are younger than age 15, 63.5 percent are between the ages of 15 and 64 and 19.2 percent are 65 and older. For blacks, 30.6 percent are younger than age 15, 62.0 percent are between the ages of between 15 and 64 and only 7.4 percent are 65 and older.

Why is there such a large difference between the age structures of whites and blacks? One reason is that blacks have higher birth rates than whites, leading to a disproportionately large number of black children. Even more important, the vast majority of older persons who move to Florida each year are white, leading to a disproportionately large number of white senior citizens. These two factors combine to make the white population substantially older than the black population in Florida.

Females account for 52.0 percent of Florida's population, and males 48.0 percent. Females outnumber males because they outlive them. Males have higher mortality rates than females at all ages. The life expectancy at birth is 78 years for females and 70 years for males. Partly as the result of their greater life expectancy, the female population is considerably older than the male population. The median age for females in Florida is 36.8, compared to 33.0 for males. For females 18.9 percent of the population is age 65 and older; for males, 15.6 percent is over 65.

In Florida, 22.1 percent of all persons age 15 and older are single, 59.5 percent are married, 9.8 percent are separated or divorced and 8.7 percent are widowed. There are some substantial differences in marital status between men and women. For men age 15 and older, 25.5 percent are single, 63.3 percent are married, 8.3 percent are separated or divorced and 2.8 percent are widowed. For women age 15 and older, 18.9 percent are single, 56.0 percent are married, 11.1 percent are separated or divorced and 14.0 percent are widowed. The higher proportion of single men reflects the higher average age at first marriage for men than women, while the much higher proportion of widowed women is the result of their greater longevity.

Labor force and employment

The labor force participation rate in Florida has increased since 1970, when 53.4 percent of all persons age 16 and older were in the labor force. In 1980, 56.2 percent were in the labor force. This rate is still considerably below the national average of 63.8 percent, primarily because of the large number of older persons in Florida who have retired from the labor force. The increase in Florida's labor force participation rate between 1970 and 1980 was caused by large gains in the number of women in the labor force. For men the proportion in the labor force actually declined between 1970 and 1980, from 69.5 to 67.0 percent. For women, however, it increased from 39.1 to 46.6 percent, with particularly large increases for mothers. For women with children younger than age six, the labor force participation rate rose from 37.7 to 52.3 percent between 1970 and 1980; for women with children age six to seventeen it rose from 53.2 to 67.5 percent.

The labor force participation rate for blacks is higher than that for whites: 62.9 percent of all blacks age 16 and older are in the labor force, compared to 55.1 percent of whites. This difference is caused primarily by differences in participation rates for females. For males age 16 and older there is not much difference between blacks and whites: 68.4 percent of blacks and 66.5 percent of whites are in the labor force. For females age 16 and older, however, there is a large difference: 58.3 percent of blacks and 45.0 percent of whites are in the labor force. Differences in age structure add to the differences in labor force participation rates between blacks and whites, as whites have a much higher proportion of the population in the older age groups.

In 1980 there were more than four million Floridians employed in the labor force, an increase of 67 percent since 1970. Wholesale and retail trade accounted for the largest number of employees with 956,676, or 23.6 percent of total employment; followed by health, education and other professional services with 761,628 (18.8 percent); manufacturing with 506,924 (12.5 percent); construction with 347,327 (8.6 percent); finance, insurance and real estate with 310,474 (7.7 percent); personal, entertainment and recreation services with 276,463 (6.8 percent); public administration with 218,373 (5.4 percent); transportation with 201,495 (5.0 percent); business and repair services with 182,181 (4.5 percent); communication and public utilities with 143,932 (3.6 percent); and agriculture, forestry, fishing and mining with 140,597 (3.5 percent). Each of these industries experienced an increase in the number of employees between 1970 and 1980, with the largest absolute increase in wholesale and retail trade (an increase of 385,625 employees) and the largest percentage increase in finance, insurance and real estate (113 percent).

Floridians are primarily private wage and salary workers. Of the more than four million employees age 16 and older, 76.5 percent are private wage and salary workers; 3.3 percent are federal government workers; 4.0 percent are state government workers; 8.8 percent are local government workers; 6.8 percent are self-employed workers; and 0.7 percent are unpaid family workers. These proportions have changed very little since 1970. It is particularly interesting to note that all government workers (federal, state and local) have increased only from 15.9 percent of all workers in 1970 to 16.1 percent in 1980.

Education

In Florida 67.2 percent of all persons age 25 and older are high school graduates, slightly higher than the national average of 66.3 percent. Alaska has the highest propor-

tion of high school graduates of any state (82.8 percent) and Kentucky the lowest (51.9 percent). The proportion of persons age 25 and older who are college graduates, however, is somewhat lower in Florida than the United States: 14.7 percent compared to 16.3 percent. Of the fifty states, Colorado has the highest proportion of college graduates (23.0 percent) and Arkansas the lowest (9.7 percent).

Education levels in Florida have risen substantially since 1970. The proportion of persons 25 and older who have graduated from high school rose from 52.6 to 67.2 percent between 1970 and 1980, while the proportion who have graduated from college rose from 10.3 to 14.7 percent. Although education levels for whites remain considerably above those for blacks, the rate of increase in education levels between 1970 and 1980 was greater for blacks than whites. The proportion of blacks 25 and older who have graduated from high school rose from 24.4 to 45.1 percent (an increase of 85 percent) and of whites from 56.3 to 70.1 percent (an increase of 25 percent). The proportion of persons 25 and older who have graduated from college rose from 4.1 to 7.1 percent for blacks (an increase of 73 percent) and from 11.1 to 15.6 percent for whites (an increase of 41 percent). According to these two measures of educational attainment, the gap between whites and blacks in Florida became smaller during the 1970s.

Income

The average per capita income in Florida in 1979 was $7,593, slightly above the national average of $7,313.* Alaska has the highest per capita income of any state ($10,171) and Mississippi the lowest ($5,327). Florida's median family income, however, is below the national average: $17,558 compared to $19,908. Alaska has the highest median family income ($28,266) and Arkansas the lowest ($14,356). In Florida 9.5 percent of all families receive incomes below the government-defined poverty level. This figure is virtually identical to the national average of 9.6 percent. Nevada and Wyoming have the smallest proportion of families below the poverty level (5.9 percent) and Mississippi the largest (19.5 percent).

Floridians' income increased considerably between 1970 and 1980, with average per capita income increasing by 146 percent, from $3,092 to $7,593. Median family income increased 112 percent, from $8,267 to $17,558. Of course, a large part of this increase was in nominal rather than real terms, or simply the result of inflation. Real gains were made, however, as shown by the decline in the proportion of persons below the poverty level, from 16.4 percent in 1970 to 12.9 percent in 1980.

Income levels for whites are considerably higher than the levels for blacks in Florida, but the gap is closing. The median family income for blacks increased by 135 percent between 1970 and 1980, from $4,983 to $11,728. At the same time the median family income for whites increased by 109 percent, from $8,818 to $18,464. In 1970 the median family income for whites was 77 percent greater than that for blacks; in 1980 it was 57 percent greater. Although the gap between the incomes of whites and blacks has narrowed, it remains quite large, as illustrated by the poverty statistics: 33.7 percent of blacks receive incomes below the poverty line, compared to only 9.4 percent of whites.

Conclusion

In many ways, Florida's population is much like that of the rest of the United States. Levels of education and income, the incidence of poverty and the distribution of occupations are not much different in Florida than nationwide. The race and sex structures of the Florida population are very similar to those of the United States population. Yet one feature sets Florida apart from the rest of the country: its age structure. Florida has by far the oldest population of any state and promises to become even older during the coming years. This large elderly population is the outstanding demographic feature of the state and has a major impact on social, political and economic life.

*These per capita income numbers, based on a small sample of individual responses to 1980 Census questionnaires, may differ from those derived from other data sources and released by other government agencies.

Florida's Counties Follow Statewide Growth Trends

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The long-awaited results of the 1980 Census confirm that the growth and change typifying Florida for so many years have continued into the 1970s. The state's demographic characteristics distinguish it from the rest of the country. In every decade since 1900, Florida has experienced a growth rate at least double that for the nation. Sustained inmigration of an older population into Florida has given it the highest median age of any state in the U.S. in 1980. In addition, Florida's average household size in 1980 ranked second lowest nationally behind the District of Columbia.

These unique features, however, are not uniform across the state. County and regional differences are often in sharp contrast. A discussion of these contrasts can help to expand the perception of this growth and change, and present a profile of Florida that is enhanced by its diversity.

Growth

Unlike previous decades, none of Florida's counties lost population between 1970 and 1980. Although each county gained population during this period, the patterns of growth were varied. The central and southern regions grew more rapidly than the northern region. Citrus, Hernando and Pasco counties on the Gulf coast grew by more than 150 percent. Northern-region counties such as Duval, Franklin, Gulf and Gadsden grew by less than 10 percent. Clay was the only northern-region county among the state's most rapidly growing counties. Dade and Broward counties led in the increase in the absolute number of persons, each registering gains of more than 300,000 persons between 1970 and 1980.

As a result of the decade of growth, the state added two SMSAs, Ft. Walton Beach in Okaloosa County and Ocala in Marion County. The growth for all SMSAs of 41.8 percent kept pace with the state's 43.5 percent change. The Fort Myers-Cape Coral SMSA claimed Florida's largest percentage increase from 1970 to 1980 with 95.1 percent. The three-county Tampa-St. Petersburg SMSA experienced the largest absolute gain,

growing from nearly 1.1 million to more than 1.5 million, an increase of 44.1 percent.

County growth patterns from 1970 to 1980 were not necessarily consistent with the change from 1960 to 1970. (See Table 1.) Counties such as Lee, Alachua, Pinellas, Charlotte and Citrus maintained fairly stable growth (whether high or low) during this twenty-year period. Other counties such as Duval, Okaloosa, Union, Escambia and Brevard experienced less 1970-to-1980 growth than between 1960 and 1970. Flagler County, with a net population loss from 1960 to 1970, rebounded with a 145 percent gain in population between 1970 and 1980.

Growth within the counties was primarily in the unincorporated areas. The population of Florida's cities increased by about 28 percent, while unincorporated areas grew by 68 percent. All counties except Brevard, Broward, Seminole and Liberty had unincorporated-area growth rates that were greater than for the county as a whole.

Components of growth

Growth occurs through natural increase (births minus deaths) and net migration (the net result of the in-and-out movement of people). Unlike most other states, the major component of Florida's growth is net migration. In the last decade, net migration contributed to more than 90 percent of the state's population change. The influence of this largest and most volatile factor in an area's growth is not consistent among the counties. Gulf, Duval and Gadsden counties, all areas with low growth rates from 1970 to 1980, obtained 100 percent of their population change from natural increase. If natural increase had not been great enough to offset a negative net migration, these counties would have lost population during this time period. The opposite effect occurred in other counties.

Eight Gulf coast counties--Citrus, Hernando, Pasco, Pinellas, Manatee, Sarasota, Charlotte and Lee—as well as Volusia, Highlands and Lake counties, attributed 100 percent of their population change during this same period to net migration. Because of a negative natural increase (more deaths than births) growth occurred in these counties only because of the positive effect of net migration. Net migration contributed more than 50 percent of the past decade's growth in 60 of Florida's 67 counties.

Demographic characteristics

The age distribution of Florida has continued toward an older population. The median age of the state's residents rose from an already-high 32.3 years in 1970 to 34.7 years in 1980, the highest median age of any state in the country. During this same period, the number of persons age 65 and older increased by 71 percent, from slightly less than one million to nearly 1.7 million.

Table 2 lists the fifteen counties having more than 20 percent of their population age 65 and older, and with a median age greater than that for the state. Charlotte County has the oldest population of any county, with a 1980 median age of 57.1 years. Thirty-four percent of this county's population is age 65 and older. Eleven of these fifteen counties also had 20 percent of their population over age 65 in 1970. It is interesting to note that, while most county median ages rose during the last decade, areas such as Charlotte, Manatee, Pasco, Pinellas and Volusia counties had a lower median age in 1980 than in 1970.

Race

At this time, data on race from the 1980 Census are still provisional and consequently are not directly comparable to 1970 Census data. However, some useful information on racial composition can still be determined from these data.

The census showed that whites comprise 84 percent of Florida's total population and nonwhites 15 percent. (Data and percentages are for those persons designating a race on the 1980 census form and do not include those listing "other." Because of this, percentages will not add up to 100 percent.) In general, counties in the state's northern region have a larger nonwhite population than do the central or southern regions. Gadsden County's nonwhite population is more than 60 percent of its total population. Other northern, rural counties such as Madison, Jefferson and Hamilton have nonwhite populations of more than 35 percent.

Pasco County's nonwhite population amounts to 2.5 percent of its total, and is the

Table 1.—Percentage change in Florida's population by county: 1960-70, 1970-80

County	1960 to 1970	1970 to 1980
Florida	37.2	43.5
Alachua	41.4	44.5
Baker	25.5	65.4
Bay	12.1	24.8
Bradford	17.5	36.9
Brevard	106.4	18.7
Broward	85.7	64.2
Calhoun	2.7	21.9
Charlotte	118.8	112.1
Citrus	107.1	185.0
Clay	64.1	109.2
Collier	141.5	126.0
Columbia	25.8	40.2
Dade	35.6	28.7
De Soto	11.8	45.8
Dixie	22.3	41.4
Duval	16.1	8.0
Escambia	18.1	13.9
Flagler	-2.5	145.0
Franklin	7.4	8.4
Gadsden	-6.7	6.1
Gilchrist	23.8	62.4
Glades	24.4	63.3
Gulf	1.6	5.6
Hamilton	1.1	12.5
Hardee	20.4	30.2
Hendry	46.1	56.8
Hernando	51.8	161.5
Highlands	38.3	61.1
Hillsborough	23.2	32.0
Holmes	-1.1	37.3
Indian River	42.2	66.4
Jackson	-4.9	13.7
Jefferson	-8.0	21.9
Lafayette	0.1	39.5
Lake	20.8	51.3
Lee	92.9	95.1
Leon	38.8	44.3
Levy	23.1	55.8
Liberty	7.7	26.1
Madison	-4.8	10.5
Manatee	40.4	52.9
Marion	33.7	37.4
Martin	65.6	128.3
Monroe	9.7	20.2
Nassau	20.0	59.5
Okaloosa	44.2	24.6
Okeechobee	74.9	80.4
Orange	30.6	36.8
Osceola	32.8	95.1
Palm Beach	53.0	65.3
Pasco	106.5	154.9
Pinellas	39.4	39.5
Polk	17.1	40.8
Putnam	13.1	38.8
St. Johns	3.3	65.1
St. Lucie	29.4	71.5
Santa Rosa	27.7	48.3
Sarasota	56.6	68.0
Seminole	52.3	114.8
Sumter	25.0	63.6
Suwannee	4.0	43.2
Taylor	3.6	21.2
Union	34.2	25.3
Volusia	35.2	52.7
Wakulla	20.0	72.6
Walton	3.3	32.4
Washington	1.8	26.7

Table 2.—Percentage of population age 65 and older and median age for selected counties, 1970 & 1980

	1970			1980		
	Population 65 and over	Percent of total population	Median age	Population 65 and over	Percent of total population	Median age
Florida	989,000	14.6	32.3	1,688,000	17.3	34.7
Broward	111,178	17.9	37.7	223,682	22.0	39.2
Charlotte	9,661	35.1	58.3	19,855	33.9	57.1
Citrus	4,992	26.0	49.0	15,870	29.0	52.2
Hernando	3,457	20.3	38.2	10,853	24.4	47.7
Highlands	6,306	20.7	37.9	12,527	26.4	44.7
Indian River	6,251	17.4	34.5	12,180	20.3	39.6
Lake	14,784	21.3	39.0	26,640	25.4	43.2
Lee	19,767	18.8	39.3	45,871	22.4	41.7
Manatee	29,331	30.2	48.7	40,156	27.1	44.3
Martin	5,984	21.3	39.6	15,654	24.5	43.0
Palm Beach	60,415	17.3	35.5	134,452	23.3	40.2
Pasco	24,021	31.6	53.4	59,437	30.7	52.8
Pinellas	153,923	29.5	48.1	202,825	27.8	45.8
Sarasota	34,449	28.6	49.6	60,609	30.0	49.8
Volusia	37,790	22.3	40.5	57,794	22.3	40.0

lowest in the state. Areas along the Gulf coast with large older populations such as Collier, Hernando, Citrus, Lee and Sarasota tend to have a small nonwhite population. None of these counties has more than a 9 percent nonwhite population.

Sex

The data on the number of males and females in Florida hold few surprises. Statistics for the state show that 52 percent of the population is female and 48 percent is male. Since Florida has a high median age and a longer life expectancy for females than for males, a higher proportion of females is to be expected.

Counties with a large older population have a greater contrast between the proportions of males and females. The proportion of females in Charlotte County is 53 percent, while for males it is 47 percent. In contrast, Clay County's population, with a median age of 29.1 years, is 51 percent female and 49 percent male.

Florida's Spanish-origin population has continued to increase since the first large wave of entrants arrived here in the late 1950s and 1960s. In 1980, the census counted more than 858,000 persons residing in the state who declared themselves of Spanish origin. (These figures do not include Spanish-origin entrants who arrived after April 1, 1980.) This group comprises almost 9 percent of the state's total population. The county and regional distribution of these persons tends to be concentrated primarily in the southern part of the state.

In fact, 78 percent of the state's Spanish population is located in the six-county area of Dade, Hendry, Collier, Monroe, Palm Beach and Broward counties. More than 35 percent of Dade County's population is of Spanish origin. The percentage in the remaining five counties ranges from 4.0 percent in Broward County to 12.8 percent in Hendry County. Other counties with a significant number of Spanish-origin persons are Orange with 4.2 percent, Hillsborough with 9.9 percent and Hardee with 16.7 percent.

Households and average household size

Households are the number of housing units occupied by permanent residents and exclude part-time or seasonal residents.

The increase in the number of households has been substantial during the last decade.

Between 1970 and 1980, the number of households in Florida increased by 64 percent from more than 2.2 million in 1970 to nearly 3.75 million in 1980. Dade, Broward, Pinellas and Palm Beach counties each added more than 100,000 households during the last ten years. Counties such as Citrus, Hernando, Pasco and Collier on the Gulf coast and Flagler on the east coast increased their number of households by more than 150 percent during this same period. In sharp contrast, Lafayette, Union, Liberty and Franklin counties added fewer than 500 households. Duval, Franklin, Gulf, Madison, Jackson and Hamilton counties increased their number of households by less than 30 percent.

Counties having the slowest increase in households during the 1970s were generally located in the northern part of the state, while the most rapid growth tended to be in the southern part. The pattern of regional and county variation in growth follows closely the differences in other demographic characteristics that have been discussed.

Average household size continued to decline both in the United States and in Florida between 1970 and 1980. This decline has been influenced by lower birth rates and a move toward the formation of more one-person households. The decline in Florida is accentuated even further by the inmigration into the state of older persons who generally tend to live in one- or two-person households.

Charlotte, Pinellas and Sarasota counties, with their large older populations, have the smallest average household size in the state at 2.25. Gadsden and Baker counties have the largest households, with an average of more than 3.2 persons. Only six counties have an average household size of more than 3.0 persons and eighteen have fewer than the state average of 2.5. The household populations of 28 counties declined by more than the state's average decline of 12.1 percent. Brevard County experienced the sharpest decline, falling from 3.30 in 1970 to 2.64 persons per household in 1980. Charlotte County, with an already-low 1970 average household size of 2.35, had the smallest decline in the past decade.

Information on median rents paid by householders in Florida is also available. The median dollar amount per month is highest in counties in the southern region, with Broward County leading with a median contract rent of $268 per month. Northern and panhandle counties show the lowest rents in the state, with Florida's lowest median contract rent of $71 per month indicated in Madison County.

Additionally, the 1980 Census also asked householders who are also homeowners to give the dollar value of these units, and these data have been released. The data include only owner-occupied units and exclude condominium units. Again, the value of homes in the southern region of the state was the highest, while northern and panhandle homes had the lowest median dollar value. Collier County, with the highest median dollar value of $71,000, stands in sharp contrast to the state's lowest value of $19,000 found in Calhoun County.

Housing units

The number of housing units in the state grew by 73 percent from more than 2.5 million in 1970 to nearly 4.4 million in 1980. (Unlike households defined as only those units occupied by a permanent resident, housing units represent the total housing inventory in the state.) Of the 1980 total, nearly 4.3 million are classified as year-round housing units and almost 96,000 are "vacant seasonal" and migratory units. Dade and Broward counties led the state in the addition of housing units, with both counties adding more than 200,000 units between 1970 and 1980. Flagler, Citrus and Hernando counties all showed an increase in units of more than 200 percent. By contrast, Gulf and Jackson counties each experienced a gain of less than 30 percent.

The number of seasonal units showed an increase of more than 150 percent statewide during the last ten years. Significant increases in the number of seasonal units occurred mainly in coastal counties. However, even traditionally slow-growth areas such as Levy, Gulf and Franklin counties added a substantial number of seasonal units during this period.

Nonpermanent residents

For the first time, the Census Bureau has tabulated counts of nonpermanent residents of Florida, who were staying in Florida at the time of the 1980 Census and listed their usual place of residence in another state. These

Table 3.—Nonpermanent residents of Florida by county: April 1, 1980

County where staying at time of census	Persons in nonpermanent households	Number of nonpermanent persons 60 years and over
Florida	252,554	157,584
Bay	745	275
Brevard	5,790	3,571
Broward	24,033	12,682
Charlotte	4,497	3,297
Citrus	555	343
Collier	6,975	4,392
Dade	10,627	4,397
De Soto	603	452
Escambia	760	132
Hernando	1,251	884
Highlands	3,546	2,630
Hillsborough	3,683	2,367
Indian River	3,014	1,805
Lake	1,985	1,539
Lee	13,257	9,257
Manatee	13,576	10,492
Martin	3,346	2,190
Monroe	3,100	1,477
Okeechobee	688	375
Orange	2,384	1,159
Osceola	2,253	1,648
Palm Beach	25,895	13,432
Pasco	5,926	4,670
Pinellas	21,614	15,295
Polk	8,592	6,263
St. Lucie	3,020	1,889
Sarasota	14,528	9,656
Seminole	1,194	518
Volusia	5,721	3,516

Source: U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population: Supplementary Reports, PC80-S1-6.

figures are shown in Table 3. Florida accounted for more than 46 percent of all nonpermanent residents counted nationally. The state's ratio of nonpermanent to permanent residents is the highest in the country, with 26 nonpermanent residents to every 1,000 permanent residents.

There were more than 132,000 households occupied by nonpermanent residents in Florida in 1980, which represents a nonpermanent population of 252,554 persons. More than 120,000 of these persons were age 65 and older, and the number becomes even more significant if persons age 60 and older are considered. With the exception of a very few counties, persons age 60 and older form the majority of the nonpermanent population, with more than 60 percent of Florida's nonpermanent residents in this age group.

Palm Beach, Broward and Pinellas counties each had more than 20,000 persons living in nonpermanent households, and Sarasota, Dade, Lee and Manatee counties each counted more than 10,000 persons in this category. Almost 30 percent of these persons listed New York and Michigan as their usual state of residence, with the entire Northeast and North Central regions of the U.S. contributing more than 75 percent of Florida's nonpermanent residents.

Florida has experienced continued growth and change during the last ten years, and has become an area that is unique in its demographic characteristics. In spite of a general trend toward uniformity on the state level, regional and county differences have been sustained. It should be interesting to see if the diversity remains during this next decade.

The Impact of Older People on Florida's Economy

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A number of Florida's economic and business leaders have expressed concern that the large number of older people in Florida creates an economic burden on the state which will increase in the future as the proportion of older people rises.

The future is always difficult to project. The federal government's current policy to place greater responsibility on the states for the support of welfare programs such as Medicaid could add to the state's cost of these programs. The anticipated cutback in Medicare could also impact welfare costs. To determine the possible impact of older people on the state's economy, this article examines: 1) income trends in Florida during the period of greatest inmigration of older people to the state; 2) the changes in incomes of Florida's older people; 3) poverty among Florida's older people; 4) the number of frail elderly; and 5) the possible economic burdens of older persons on state and local governments.

How has the average income of Florida residents changed in the last three decades, the period when Florida's population experienced substantial growth accompanied by even greater growth in the number and proportion of older people? A good measure of the income change is per capita personal income. Table 1 shows per capita personal income in Florida and the United States for selected years from 1950 to 1980.

The figures reveal that over the thirty-year period, per capita income in the United States has been higher than in Florida. However, using 1950 as a base year (1950 = 100) the indexes show a relatively greater gain in Florida—an index figure of 702.1 for Florida in 1980 compared to 634.3 for the United States. A comparison of the indexes during the seventies shows that the relative changes over that period have been about equal. Given the structures of the state and national economies, it is reasonable to assume that the patterns of change in per capita income during the past three decades will not differ greatly in the 1980s. However, Florida's major gain in per capita income relative to the nation occurred in the 1960s. In 1960,

Table 1.—Per capita personal income in Florida and the United States: 1950-1980 ($)

	Per capita income			
	Florida		United States	
Year	Amount	Index	Amount	Index
1950	1,280	100.0	1,491	100.0
1960	1,948	152.2	2,212	148.4
1965	2,404	187.8	2,764	185.4
1969	3,437	268.5	3,705	248.5
1970	3,698	288.9	3,911	262.3
1972	4,461	348.5	4,513	302.7
1973	4,988	389.7	5,002	335.5
1975	5,341	417.3	5,449	365.5
1974	5,634	440.2	5,867	393.5
1976	6,094	476.1	6,425	430.9
1977	6,728	525.6	7,086	475.3
1980	8,987	702.1	9,458	634.3

Source: Florida Statistical Abstract and Statistical Abstract of the United States, various years.

Florida's per capita income was 88.0 percent of the United States's, in 1970 it was 94.5 percent, and in 1980 it was 95.0 percent. It is expected that the gain relative to the nation during the 1980s will correspond to the trend of the 1970s.

Essentially, all that can be concluded from these income comparisons is that even with the increasing proportion of older people in Florida, the average per capita income increased, and at a greater rate than in the nation. If an adjustment for inflation is made, personal income in Florida in real terms increased from $2,198 in 1960 to $3,875 in 1978. While these changes were occurring, what was happening to the incomes of older people?

Changes in the incomes of Florida's older people

The mean incomes of people age 65 and older in Florida were $3,671 in 1969 and $5,671 in 1975, an increase of 54.5 percent over the period. For those age 14 and older, the respective mean incomes were $5,169 in 1969 and $7,138 in 1975, an increase of 38.0 percent. In other words, the mean income of the older population group compared to that of the total group was 71.0 percent in 1969 and 79.4 percent in 1975. This gain is to be expected because an increasing proportion of the income of older people in Florida came from Social Security and pension benefits. Over the same period, average Social Security benefit payments increased 106.7 percent.

Another series providing information on income trends is one on median income for families with heads 14 and older and for husband-wife families with heads 65 and older. These data from the 1950, 1960 and 1970 *Decennial Census of Population* and from the 1975 *Survey of Income and Education* are shown in Table 2.

This series shows changes over a twenty-five-year period and further supports the types of changes shown by the other data. Husband-wife families accounted for 88 percent of those in Florida with heads age 65 and older in 1975. Looking first at the median income of families with heads age 14 and older, it is evident that while income is lower in Florida than in the United States, it has risen at a faster rate in Florida. In 1949, the median income for the Florida group was 77 percent

Table 2.—Median income: Families with heads 14 and older and husband-wife families with heads 65 and older ($)

	1949	1959	1969	1975
Families, head 14 plus				
United States	3,091	5,660	9,596	14,094
Index (1949 = 100)	100.0	183.1	310.4	456.0
Florida	2,384	4,722	8,274	12,205
Index	100.0	198.1	347.1	512.0
Husband-wife families, head 65 plus				
United States	1,721	3,050	4,914	8,374
Index	100.0	177.2	285.5	486.6
Florida	1,599	2,830	4,960	8,571
Index	100.0	177.0	310.2	536.0

of that for families nationally, while in 1975 it was 86 percent of the national median. As shown in some of the earlier mean income comparisons, however, the relative change between 1969 and 1975 has been about equal in both Florida and the nation.

In summary, an analysis of the incomes of Florida residents age 65 and older reveals the following developments:

(1) Transfer payments (Social Security and other pension payments) have increased as a proportion of the income of older people in Florida and the nation, with the increase occurring at a faster rate in Florida. This component will continue to increase during the 1980s.

(2) The average incomes of older people in Florida and the nation are lower than for the population as a whole, but the differences have diminished slightly over the past thirty years. There is evidence that during the 1970s the average incomes for both groups changed at about the same rate. The expectation is that the trend in the 1970s will continue into the 1980s.

(3) Over the past two decades, the average income of older people in Florida has been slightly higher than their counterparts nationally. This condition should not change greatly during the 1980s.

(4) The income received by older people in Florida is 19.5 percent of total income payments in the state. The expectation is that this proportion will continue to increase throughout the 1980s.

(5) While the incomes of older people are lower than those of younger people, the differences are not as great in Florida as in the nation. For example, in 1975 the mean income of males age 65 and older in Florida was 87 percent of the mean income for all males. In the United States, it was 73 percent. The above figures are based on sample data, but even after allowance for the maximum estimated standard error, there is a significant difference.

Poverty among Florida's older people

In 1975, according to the *Survey of Income and Education*, there were more than 1.2 million people in Florida below the poverty level as defined by the Bureau of the Census, which corresponds to a poverty rate of 14.4 percent. Among those age 65 and older there were 153,000 persons below the poverty level—a rate of 11.3 percent. Thus, poverty was lower in the older population than in Florida's total population. Nationally, the situation was reversed, with the poverty

Table 3.—Florida's frail elderly population: future projections

	1978	1990	2000
Total population 65 plus	1,568,100	2,499,105	2,851,900
Number bedfast	31,362	49,982	57,038
Number housebound	94,086	149,945	171,114
Number needing institutional care	54,884	87,485	99,817
Number needing long-term care	282,258	449,834	513,342

rate for all persons at 11.4 percent, while for those age 65 years and older it was 14.0 per cent.

There are many common features concerning the incidence of poverty in Florida and the nation. For example, the incidence is high in poverty areas in central cities, followed closely by poverty areas outside the central cities; it is high among the least educated; and it is high among large families, blacks and other minorities, children and people living alone. While the increase in the proportion of the very old and of persons living alone should add to the poverty-level or below group, the impact of this addition should be relatively small.

The number of frail elderly in Florida

Florida's frail elderly population, which is comprised of those very old and alone, the bedfast, the housebound, those needing institutional care and those needing long term care, will increase over the next two decades. These projections are based on national statistics derived from a study of the above group. It is assumed that the incidence of these conditions among the various age groups will continue at the level found at the time of the study. (See Table 3.)

While the projected number of older people needing institutional care will be only 3.5 percent of the age 65 and older population in the year 2000, that number will amount to approximately 100,000 persons. Among the elderly who are not restricted by severe physical limitations, there are substantial numbers who need long term care if they are to continue as active members of society. The projected vulnerable population is important to future planning in Florida.

Possible economic burden of older people on state and local governments

A question frequently raised by public officials and citizens is whether older people create a net need for economic support as a result of their failure to contribute enough revenue through tax payments to cover the cost of the publicly financed services they utilize. This analysis looks first at the contribution those age 65 and older make to state and local revenues and then examines the expenditures of state and local governments on the services utilized by older people.

There are no data segmented by age that can be used to show tax contributions and the use of public services by older people; however, by utilizing other available information it is possible to make estimates that provide some useful insights. This approach takes the various revenue sources in Florida and estimates from related data the likely proportion contributed by people age 65 and older. The analysis omits many possible refinements and utilizes some heroic assumptions, but generally it provides a way to evaluate the likely proportion of tax revenue contributed to state and local governments in Florida by persons age 65 and older.

Taxes paid or borne by older people in Florida

A 1978 study by the Finance and Taxation Committee of the Florida House of Representatives on *The Burden of Florida Taxes by Income Class: 1974-75*, reveals the problem of determining the amount of taxes paid by particular groups, as well as determining the ultimate burden of the taxes. For example, tax records are not maintained to show sales taxes paid by tourists, residents of

Table 4.—Revenues collected from own source by state and local governments in Florida: 1975-1976

Tax or revenue source	Amount (in millions)	Percent borne by residents*		Amount borne by residents, 65+ (in millions)
		All ages	Age 65+	
Property	$1,611.4	82.0	25.7	$ 339.6
General sales	1,254.1	85.8	15.5	166.8
Corporate income	180.7	22.0	21.4	8.5
Beverage	180.4	77.0	15.5	21.5
Cigarette	182.6	90.0	15.5	25.5
Documentary	80.2	100.0	20.8	16.7
Estate	37.9	100.0	75.0	28.4
Utility	196.3	100.0	18.5	36.3
Insurance program	52.4	100.0	18.9	9.9
Intangible	78.6	100.0	19.0	14.9
Motor fuel	369.7	79.0	15.9	46.3
Motor vehicle licenses	180.3	100.0	19.9	35.9
Racing	85.0	74.9	15.5	9.9
Others	275.0	73.1	18.1	36.4
Total taxes	$4,764.6	82.3	20.3	$ 796.6
Charges & miscellaneous	1,860.4	75.5	17.3	242.7
TOTAL	$6,625.0	80.4	19.5	$1,039.3

*The percentages in column three apply to the percentages in column two.

Florida or business establishments, or real estate taxes paid by business organizations in state and out of state, as well as by residents and nonresidents. As previously noted, it is also true that tax records are not maintained to show taxes paid by people in different age categories. In the present analysis, if taxes are paid by tourists, businesses in Florida and residents of the state, the ultimate burden is assumed to fall on the tourists or the residents of the state, except for the proportion of business taxes paid by out-of-state investors. The residents are assumed to pay the taxes either as business owners or as consumers.

The summary data in Table 4 show total revenues collected and estimates of the percentage of the various revenues paid by all residents and by those age 65 and older.

Cost of services provided to older people

To provide data comparable to the revenue data, information is given on state and local government expenditures by function in 1975-76. As in the case of revenues, the analysis is designed to show expenditures by function from revenues obtained from own sources only. While the available records permitted the clean removal of federal funds from state expenditures, the same was not true for expenditures from local sources. The total amount of federal expenditures involved was not large, and thus the amounts were taken out of individual items on a proportional basis. It is believed that this approach doesn't seriously affect the analysis in view of the relatively small amount of federal funds involved. The direct general expenditures of state and local governments by function in 1975-76 are detailed in Table 5, which also indicates the estimated proportion of the service used by older people.

In summary, the estimates show that older people in 1975-76 paid or bore state and local taxes amounting to $1,039 billion, and they received benefits valued at $1,014

Table 5.—Direct general expenditures of state and local governments by function: 1975-1976

Functions	Total expenditures (in millions)	Percent of value of benefits received by Floridians		Value of of services used by 65+ (in millions)
		All ages	Age 65+	
Education	$2,699.9	100.0	3.0	$ 81.0
Highways	557.3	69.3	14.4	55.9
Public welfare	201.5	100.0	12.5	25.2
Health and hospitals	799.0	100.0	53.2	425.1
Police protection	404.1	82.4	19.4	64.6
Fire protection	128.1	82.4	19.4	20.5
Sewerage	338.6	82.4	19.4	54.1
Other sanitation	118.0	82.4	19.4	18.9
Local parks and recreation	179.7	100.0	11.0	19.8
Financial administration	142.2	82.4	19.4	22.7
General control	230.2	82.4	19.4	36.8
Interest on general debt	254.6	82.4	19.4	40.7
All other general expenditures	930.1	82.4	19.4	148.7
TOTAL	$6,983.3	91.1	15.9	$1,014.0

($1,014.0 ÷ 6,361.8 = 15.9)

billion. They bore 19.5 percent of the taxes paid by residents of Florida or 15.7 percent of all taxes and charges. Older people received 15.9 percent of the benefits extended to residents of Florida or 14.5 percent of all benefits provided by state and local governments from own sources. From this analysis and these estimates, it may be concluded that people age 65 and older make a net contribution to the public sector by bearing a higher proportion of the tax burden than they receive in service benefits from state and local governments.

Concluding observation

Over the last twenty years, when there has been a large immigration of older people into Florida, the per capita income of Floridians has increased. During a comparable period, the per capita income of older people in Florida has increased also, but at a faster rate than for the total population in Florida. During the last two decades, the per capita incomes of all Floridians and of those age 65 and older in Florida have increased more than the per capita incomes of these respective groups nationally. Per capita income trends of the 1970s are expected to continue in the 1980s.

In Florida, the poverty rate among older people is lower than in the general population. The number of frail elderly relative to the total population is low and it is estimated that older people are more than paying for the services provided for them by state and local governments. All of these factors suggest that older people in Florida will continue to be an enormous benefit to the state during the 1980s.

Florida's Foreign-born Population: A Growing Influence on Our Economy

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If the United States is a nation of immigrants, then Florida must be labeled the state of migration. Florida has become the favorite destination of millions of new residents, attracting both internal and international migrants. The net migration rates for the three most recent census periods are approximately 50 percent, 25 percent and 40 percent, respectively, for the decades of the 50s, 60s and 70s. Such dramatic migration rates merely reflect the tremendous growth in Florida from fewer than three million people in 1950 to just under ten million in 1980. Migration has been the major contributor to such fantastic growth. The vast majority of all current Florida residents hail from different parts of the United States or from other countries, as only 31 percent of Floridians in 1980 were natives of the state.

Florida, therefore, has a lower percentage of native-born residents than any other state, except the much smaller states of Arizona, Nevada and Alaska. Even California, by contrast, has more than 45 percent of its residents born within the state.

Not only does Florida have the largest majority of its current residents born in a different state (56 percent), but a significant proportion were also born in another country (11 percent). The number of foreign born in Florida doubled during the 1960s and doubled again during the most recent decade, increasing from 5.5 percent of the total population in 1970 to 11.0 percent in 1980 (See Table 1).

This study's major interest is in the more than one million persons who were born in another country (other than to American parents), otherwise classified by the U.S. Census as foreign born. These residents and their children constitute the immigrant population which recently impacted Florida so greatly. The number of foreign born reflects the total immigrant population; however, it is a conservative estimate because it does not indicate the children (second and future generations) of the foreign born. Therefore, utilizing the foreign-born population to indicate the relative numbers and location of Florida's immigrant population, it is

apparent that this group is concentrated in specific metropolitan areas within the state.

Foreign-born population concentrated

Fully 75 percent of the foreign-born population in 1980 resided within the three metropolitan areas of Miami, Ft. Lauderdale and Tampa. Miami and Ft. Lauderdale account for 65 percent of the total in this category. Miami, with 574,000, has the majority of foreign born with approximately 55 percent of the total. Of course, these 1980 figures also discount the largest concentration of new Florida immigrants, the approximately 150,000 Cubans and Haitians who arrived in the south Florida area within a six-month span. Therefore, a huge proportion of Florida's recent immigration has been concentrated into the Gold Coast region of south Florida, with Miami/Dade receiving the large majority of that impact. Miami's foreign-born residents are estimated now to have exceeded more than 600,000 and to constitute more than 40 percent of the total Miami/Dade population, rather than the 35 percent indicated by the 1980 Census.

The nature of Florida's recent immigration is reflected in the increase of Hispanic persons residing in the state from 1.6 percent of the total population in 1960 to 6.6 percent in 1970 and 8.8 percent in 1980. (With the addition of the estimate of total Hispanic immigration to Florida since the 1980 Census to these figures, the total Hispanic proportion of Florida's population is estimated to be greater than 10 percent.) The increase of Hispanics in Florida, although dominated by Cubans in south Florida, also is represented by other Hispanics (see Table 2). Cubans account for more than half (55 percent) of all Hispanics and 5 percent of the total Florida population.

The large majority of the Hispanic population resides in south Florida, particularly in Miami/Dade which has by far the largest number of other Hispanics, although Cubans account for 86 percent of the county's total Hispanic population. The 1980 Census data (see Table 3) reveal Dade County with close to 70 percent of all Spanish-origin populations in Florida, whereas Tampa has approximately 8 percent and Broward County has less than 5 percent. In other counties such as Monroe, Hispanics constitute a significant proportion of the population, but none contribute more than 1 percent of the total Hispanic population of Florida. (Less than 15 percent of Monroe County's population is estimated to be Hispanic.)

The above discussion must be tempered with the realization that the actual number of Hispanics, and therefore the constituent subgroups such as Cubans, Colombians and Puerto Ricans, is not known because of the census undercount, the number of illegal aliens and the large influx of immigrants following the April count of the 1980 Census. These recent events were the most dramatic, intense and perhaps longest-lasting in Florida's immigration history. The impact of the Freedom Flotilla, now referred to as the Mariel Boatlift, and the parallel, but independent, influx of Haitians added even greater impact to an already reeling south Florida and the Miami/Dade communities. Because of the importance of Dade County and other south Florida communities to the total immigration picture in Florida, we will place a major emphasis on the recent immigration picture in south Florida and its subsequent impact upon this metropolitan region.

In an attempt to determine the Latin population in Dade County, we surveyed foreign consulates for their estimates of the Latin subgroups at the time of the most recent 1980 Census (McCoy, et al, 1980).

Data lacking for accurate count

The census figures and the consulate figures are not easily compared except for Puerto Rico and Cuba: Puerto Rican estimates were 4,500 below the census, whereas the Cuban estimate was 93,000 greater than the census figures (see Table 4). A major complication is the lack of census data on particular subgroups (Haitians and Jamaicans) considered Latin (or Caribbean) but not Hispanic, which have become increasingly important for Miami/Dade. An additional complication is the insufficient information on other Hispanic subgroups, such as Nicaraguans (and other groups from Central America) grouped as "other Spanish origin" by the census, but which are of increasing significance to Florida because of the potential political/economic instabilities that account for immigration to south Florida.

Table 1.—Number and percentage of Florida residents who are foreign born* for Florida and selected metropolitan areas: 1960, 1970, 1980

	1960		1970		1980	
	Number	Per-cent	Number	Per-cent	Number	Per-cent
Florida	272,161	5.50	540,284	8.00	1,066,482	11.00
Miami	115,003	12.09	307,391	24.25	573,898	35.30
Ft. Lauderdale	22,911	6.86	49,604	8.69	121,626	11.95
Tampa	50,075	6.48	61,349	6.58	109,535	6.70

*Born in another country, but not of American parents.

Table 2.—Hispanics as a percentage of total population for Florida and selected metropolitan areas, 1980

	Total population		Total Hispanic		Cuban		Puerto Rican		Mexican		Other Hispanic	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Florida	9,746,324	100.0	858,158	8.8	470,250	5.0	94,775	0.9	79,392	0.8	213,741	2.0
Miami-Dade	1,625,781	100.0	580,994	35.7	407,253	25.0	44,656	7.1	13,238	2.7	115,847	0.8
Ft. Lauderdale	1,018,200	100.0	40,315	4.0	12,144	1.2	9,180	0.9	3,285	0.3	15,706	1.5
Tampa	640,256	100.0	64,199	10.0	31,762	4.9	8,239	2.9	8,239	1.3	18,500	0.9

Table 3.—Percentage of Hispanics and subgroups distributed by selected metropolitan areas, 1980

	Total Hispanic	Cuban	Puerto Rican	Mexican	Other Hispanic
Miami-Dade	67.7	86.6	47.1	16.7	54.2
Ft. Lauderdale	4.7	2.6	9.7	4.1	7.3
Tampa	7.5	6.8	8.7	7.1	8.7
All other places	20.1	4.0	34.5	72.1	29.8
Florida	100.0	100.0	100.0	100.0	100.0

Source: U.S. Bureau of the Census, 1980 Census

However, even if the census figures were correct, the recent large influx of immigrants with known numbers approximating 150,000 would invalidate the total census count of migrants. Therefore, south Florida immigrants vastly exceed any numbers which can be relied upon from the census, so that any users of these data must realize how limited the utility is.

Haitian influx significant

Haitians are one of the more significant immigrant groups for whom census and other data are most lacking. Their increasing numbers necessitate their recognition as a permanent presence in Florida. The history of Haitian migration is rooted in the Caribbean's economic past. Large-scale agriculture, and

Table 4.—Latin population in Dade County: consulate estimates and 1980 Census count

	Estimates April, 1980	U.S. Census April, 1980
Colombia	40,000	NA
Mexico	NA	13,238
Puerto Rico	40,000	44,656
Venezuela	22,000	NA
Nicaragua	25,000	NA
Peru	12,000	NA
Argentina	6,000	NA
Cuba	500,000*	407,253
Other Hispanic	NA	115,847
Total Hispanic	NA	580,994
Haiti	30,000	NA
Jamaica	17,000	NA

NA Not available.
*Does not include 124,000 post Mariel Cubans, most of whom settled in Dade. Estimate by Cuban National Planning Council.

sugar cane production in particular, boomed in neighboring Cuba, the Dominican Republic and the Bahamas in 1920, thereby creating a demand for labor, which came largely from Haiti. Haitian cane workers sought work in areas of the sugar industry during the next sixty years, and by 1980, it was estimated that there were 200,000 Haitians in the Dominican Republic and nearly 40,000 in the Bahamas.

Declines in the growth of the Bahamian economy in the late 1970s prompted official intervention to attempt to expel the large number of illegal Haitians, and faced with the unpopular prospect of returning to Haiti, several thousand fled to the United States instead.

Although the availability of seasonal labor in neighboring Caribbean countries gave form to early Haitian migratory patterns, the rise to power by Francois (Papa Doc) Duvalier in 1958 set the stage for a new kind of Haitian emigration. As with Cuba's own emigration following Castro's takeover in 1959, political opponents and the elite were the first to leave Haiti, while the black middle class, urban lower class and finally, the boat people, departed in later periods and settled in the United States.

The early groups of Haitian migrants, which were composed of the elite and urban middle and lower classes, preferred to live and work in New York City. However, the Haitian boat people who are the most recent arrivals to south Florida are poor, rural and unskilled workers who seek work in the state's agricultural and service industries. The first known boatload of Haitians landed in south Florida in 1963, but a steady stream of boats has been arriving since 1972 (Stepick, 1982).

Nearly 400,000 Haitians are estimated to reside in the U.S., with close to 90 percent living in the Northeast. Exact figures on the total Haitian count are unavailable, however, due to the allegedly high proportions of illegal Haitians not included in the 1980 Census (Boswell, 1982).

The Office of Refugee Resettlement has identified 40,023 known cases of Haitian arrivals as of 1980. This figure includes 5,912 Haitians who arrived before 1980 but were not processed until that year. Table 5 shows the distribution of documented Haitian arrivals and destinations according to ORR data reports.

Because fear of deportation has prevented the determination of the actual size of the Haitian community in Miami/Dade, county plan-

Table 5.—Haitian arrivals and destinations:

ORR reports, 1981 [1]

Arrivals		Destinations	Number	Percent
Pre 1980 arrivals	5,912	Florida	27,576	70.7
1980, on or before 10/80	19,305	Dade County	23,442	60.1
1980, after 10/80	14,806	Palm Beach County	1,911	4.9
		Broward County	1,872	4.8
Total	40,023	Other Florida	351	0.9
		New York	234	0.6
		New Jersey	39	0.1
		Other states	39	0.1
		Unknown	11,117	28.5
		Total	39,005	100.0

[1] from Cuban-Haitian Task Force Monthly Reports

ners have reviewed local administrative records and other sources that might provide additional demographic and socioeconomic detail (Dade County Planning Department, 1981).

Food stamp officials report approximately 43,000 households of Cuban and Haitian refugees as of October, 1980. These records show 6,500 Haitian units, and public school enrollments for Haitians totalled 1,463 students in 1980-81.

INS officials have responded to Haitian arrivals by detaining large numbers in processing camps to allow for lengthy and careful screening of each applicant for legal entry into the country. Presently, national voluntary agencies have the responsibility for resettling and assisting approximately 2,000 Haitians now eligible for release from detention camps in Puerto Rico, New York, Texas, West Virginia and Florida.

The detention of Haitians, one report states, is expensive and cruel (Circuit Court, 1982). Haitians in Dade County constitute a minuscule percentage of arrests, and their presence poses no danger to our society (ibid:24). In fact, U.S. District Judge Eugene Spellman's release plan to resettle nearly 1,800 Haitians who are eligible for release from federal detention camps became a reality only five months after the release of the grand jury report. The findings recommended paroling the Krome Haitian detainees with relatives or sponsors pending resolution of their litigation. Volunteer agencies in charge of finding homes for the Haitians have received offers of sponsorship from Haitian communities in several Florida cities, including Miami, Belle Glade, Fort Pierce, Pompano Beach and the Tampa area. New York, Boston, Philadelphia, Chicago and Houston also contain large Haitian enclaves, and efforts are being made to resettle some detainees to those cities to diffuse the impact away from south Florida.

"Mariel" Cubans impact on Florida

The importance of the Cuban immigration to Dade County does not need to be belabored here. In other articles (McCoy et al, 1981) authors have written of the historical demography of this immigration to Florida and have delineated six fairly distinct immigration stages for Cuban immigration (see Table 6).

However, a summary of the most recent Cuban migration is important for understanding the recent apprehension concerning the "Mariels." Few recent immigrant groups have generated as much concern and hostility as have the Mariel emigres. Their negative impact on Dade County is assumed by many in both the private and public sectors of the community, particularly concerning the increase in crime, especially homicide. Even the Cuban community has not been as supportive in either attitude or real economic resources as they had to prior Cuban im-

Table 6.—Estimates of Cuban arrivals, 1959-1980

Immigration stages	Manner of transportation	Estimate 1	Estimate 2	Estimate 3	Estimate 4
First Stage (I)					
Early departures, Castro's takeover					
January 1, 1959-October 22, 1962	Commercial flights from Havana	248,070[1]	153,534[2]		
Second Stage (II)					
Post missile crisis	No direct transportation				
October 22, 1962-September 28, 1965	Small boats, rafts, escapees	55,916[1]	29,962[2]		
Third Stage (III)					
Freedom flights, family reunification					
September 18, 1965-April 6, 1973	U.S. airlift	297,318[1]	268,040[2]		
Fourth Stage (IV)					
Third Country Arrivals	Commercial flights from Spain,				
April 6, 1973-September 1978	Mexico, Jamaica	38,903[1] (January 1972/ December 1974)	17,899[2]		
Fifth Stage (V)					
Ex-political Prisoners/Family					
arrivals and other arrivals	Flights from Cuba				
October 1978-April 1980	Small boats and rafts	10,000[5]	21,839[5]	812,000[4] (1959-1980)	793,856[6]
Sixth Stage (VI)					
Mariel boatlift	Boatlift to Key West from				
April 22, 1980-September 27, 1980	Mariel Harbor	124,789[3]	124,789[3]	124,789[3]	125,118[6]
Total		774,996	616,063	936,789	918,974

[1]Juan Clark, 1975.
[2]Cuban Refugee Program registration.
[3]Cuban-Haitian Task Force.
[4]Estimate of pre-Mariel Cuban population in the U.S., Cuban National Planning Council, Inc., 1980.
[5]Guillermo Martinez, The Miami Herald, 1981.
[6]Sergio Diaz-Briquets and Lisandro Perez, 1981.

migrants. Have the majority of earlier Cuban immigrants also presumed the guilt of a large minority of Mariels? Hopefully, data will be forthcoming within the near future to explain the actual impact of Mariel entrants upon U.S. communities, and particularly upon south Florida. However, until the facts are known, an indictment of all the arrivals from Mariel should be withheld.

Historical background

When Cuban Premier Fidel Castro announced on April 20, 1980, that all Cubans could emigrate to the United States by applying for travel permits at the Peruvian Embassy in Havana, Miami's Cuban exiles quickly formed the flotillas of small boats that brought 125,000 of their countrymen to Key West in a five-month period. Hopes for family reunification among Cubans living in the United States and their relatives in Cuba were rekindled by the sudden news of yet another immigration wave from the island nation. But the expectations for a smooth transfer of people from Cuba to south Florida gradually turned to mass confusion and disappointment as the Miami-based flotilla reached the designated meeting place for all departing Cubans at the port of Mariel near Havana.

The reasons behind this latest immigration stream from Cuba are varied and complex. Scholars and observers of Cuban immigration since the first arrivals in the sixties have proposed a series of socioeconomic and political theories which point to several years of deepening frustrations and severe problems in that country's major agricultural industries. These problems prevented the provision of adequate economic and educational opportunities for a young and rapidly growing labor force (Gonzalez and McCoy, 1980; Bach, 1980). The result, according to these theories, was a rising tide of restlessness and disaffection among Cubans with relatives in the U.S., especially following the return of 100,000 Cuban exiles in 1979 who were

allowed to visit the island for the first time since the Cuban Revolution (Department of State Bulletin, July 1980:80-81).

Some of the major social and economic effects of the Mariel wave upon the resources and population of Dade County will be outlined in an effort to demonstrate the multifaceted character of this influx, and to possibly dispel the popularly held belief that all or most Mariel refugees are criminal, mentally deranged or undesirable.

Cuban-American reaction

Just months after the onset of the Cuban flotilla, the authors predicted that the adjustment of the 125,000 new refugees would depend largely upon the Cuban-American community's absorptive capacity (McCoy and Gonzalez, 1980) and upon adequate planning by the federal government and its cooperation with state, county and city authorities in providing aid to both the refugees and the communities that would become their new homes. It is now possible to assess part of the impact of these predictions by looking at the reality of life in Dade County two years after the arrival of the first boat from Cuba.

The Cuban community's capacity to absorb the new refugees seemed high in early April just before the onset of the flotilla. When the news reached Miami that Cubans sought asylum in the Peruvian Embassy in Havana, the exile community quickly organized the collection of food, funds, medicines and clothing for their fellow Cubans. It is difficult to forget the street parades and demonstrations, the emotional speeches and rallies, and the endless radio and television announcements as the Cuban-American community literally took to the streets to celebrate that occasion. Immediately, Cuban exile leaders began to seek support from Washington for the release of the 10,000 Cubans waiting inside the embassy compound.

The arrival of the boatlift coincided with the early stages of increased ethnic polarization and tensions which were then attributed to demographic changes and increasing Latinization of the Miami area. These tensions among sectors of the community had been aggravated by such events as the repeal of the bilingual ordinance in Dade County, the racial riots in May of that year (Rivers and McCoy, 1980), and the publication of sensational reports by the news media which focused on "the more spectacular traits and social characteristics presumed to be possessed by significant proportions of the refugees" (Aguirre, 1980). The negative publicity was perhaps the most devastating obstacle facing the newly arrived refugees, especially following Castro's statements concerning the criminal records and mental health of a small number of refugees. The Cuban-American community feared discreditation of its standing in American society, and some turned this fear into apathy for the plight of the Mariel refugee. The new refugees were both scorned and feared by many exiles, and the subsequent detention and activities of half of the Mariel population further contributed to the negative public reaction and reception.

Federal response lacking

Prior to Mariel, the federal government had allocated $2.1 billion to programs of assistance for Cuban refugees between 1962 and 1976, and Dade County was able to accommodate the continuous flow of refugees from Cuba due to expanding tourism and exports and rapidly growing garment and banking industries. From 1976 through 1980, Dade County experienced a further influx of immigrants from other countries, which highlights the special status of south Florida as the recipient of a large share of legal and illegal immigration.

A large and continuing influx of immigrants notwithstanding, the response by the federal government in recent years has been less than enthusiastic, and financial responsibility for assisting refugees has shifted from previous federal sources to the state and county levels. A recent report by Florida International University's Bureau of Business Research states that the government structure was ill-prepared to handle the sudden influx of persons from Cuba and Haiti, thus resulting in a lack of coordination and a lack of planning among federal, state and local agencies and the private sector (Luytjes, 1982).

The report further explains that Florida received only 46.4 percent of funds made available to the states between April, 1980,

and September, 1981, and that the following net costs were incurred between those dates:

Dade County	$60.1 million
State of Florida	$23.0 million

One way of measuring the full impact of refugees on the Miami/Dade area is through an assessment of monetary costs incurred by the city and county for services provided to the entrant and refugee population. Obtaining this kind of information entails the cooperation of all the agencies involved, a task that is beyond the scope of the present article. Nevertheless, the authors draw from published sources of information about the impact of refugees including reports by Florida International University and the Dade County Grand Jury, the monthly statistical reports of the Office of Refugee Resettlement, other scholarly articles and journalistic accounts, as well as 1980 Census data.

Although not exhaustive, the following is a brief attempt at assessing the impact of refugees upon selected social services, which represents the larger share of all documented expenses incurred to Dade County.

Education, health, criminal justice and social services

The impact of Cuban and Haitian entrants upon the delivery of medical, educational, health and social services has been overwhelming. When the Carter administration created the status of "entrant," the approximately 150,000 Cubans and Haitians were thus declared ineligible to receive assistance that would have been provided to refugees under the auspices of the Refugee Act of 1980. Therefore, the thousands of entrants in need of financial, medical and social services relied upon the existing private and public agencies, causing a displacement of local clients and a financial problem to the agencies (Luyjtes, 1982).

Social services comprise a broad series of programs available to Cuban and Haitian entrants, including English as a second language, outreach and social adjustment services and vocational assistance. At least 41 social service agencies and institutions offered services to Cuban and Haitian entrants in 1980-81, with employment services most requested by both groups. However, emergency food, transportation, food stamps, health services and care for the elderly and children, such as child care, day care and after-school care, were provided to entrants during this period (Luyjtes, 1982).

Data obtained by the FIU research team indicate that 12,498 Cuban and Haitian entrants received alcohol and mental health counseling and related services between 1980 and 1981. The information is considered understated because past studies on Miami's Cuban population have shown that the immigration experience and its corollaries of family disruption, downward social mobility and other adjustment stresses were important in determining the nature and extent of immigrants' incidence of stress reactions (Szapocznick, 1979; Gonzalez, 1979 and 1980). Therefore, it is probable that entrants will continue to need mental health and related services. The somewhat hostile reception at the time of arrival, the perilous voyage by sea, the long periods of detention and deportation insecurity will continue to generate stressful obstacles to the successful adjustment of Cubans, Haitians and other refugees.

Dade County's public school system, the second largest in the nation, was able to absorb nearly 19,000 foreign students virtually without any disruption in its curriculum, during the aftermath of the Mariel and Haitian influxes in 1980. There is evidence, in fact, that Mariel and Haitian children are adjusting well to the school environment. (See Tables 7 and 8.)

The sudden arrival of nearly 150,000 Cuban and Haitian refugees in 1980 dictated the need for 600 new teachers, additional facilities and an increased demand for certified bilingual teachers. Fortunately, Dade County was equipped with a well-established, federally funded bilingual program which had facilitated the linguistic, academic and cultural integration of thousands of Cuban immigrant children since their first arrival in the 1960s.

Operated by the Public Health Trust of Dade County, Jackson Memorial Hospital has treated the largest number of refugees and has provided most entrants with the only health care services readily available to them. (See Table 9.) The major impact of refugees upon the delivery of health care services at JMH, in addition to financial services, has

Table 7.—School enrollment in Dade County schools: 1970-1980

Year	Black		Hispanic		White		Total
	Number	Percent	Number	Percent	Number	Percent	
1970	61,142	25.5	49,379	20.6	129,737	54.0	240,258
1979	67,644	30.0	76,054	33.7	82,041	36.3	225,739
1980	68,808	29.6	87,548	37.7	76,077	32.7	232,433

Note: Does not include students enrolled in private schools, which are heavily attended by Hispanics and Whites. Cuban students account for 80 percent of the Hispanic student population.

Source: Jan B. Luytjes, Bureau of Business Research, Florida International University, 1982.

Table 8.—Dade County schools foreign student enrollment: April 28, 1980—September 18, 1981 (Grades K through 12)

	Number	Percent
Cubans	16,157	85.3
Haitians	1,463	7.7
Nicaraguans	1,131	5.9
Other immigrants	183	1.0
Total	18,934	100.0

Source: Jan B. Luyjtes, 1982.

been the need for more interpreters and the increased requirement for more obstetrical and infant care services (Haitian births account for more than 17 percent of all deliveries).

The federal response to Dade County's plea for more resources to treat a growing population has been inadequate. While JMH does receive some federal reimbursement for aliens who are registered with the Immigration and Naturalization Service, there is no such reimbursement for undocumented (and therefore illegal) aliens who are treated at public expense at the hospital. This is the case with many Haitians, who having landed illegally on south Florida shores, avoid applying for legal immigration status out of fear of deportation.

Housing problems

An immediate impact on housing availability occurred with the arrival of the Cuban and Haitian refugees in 1980-81, when the rental vacancy rate in Dade County was less than one-half of 1 percent. According to one survey, only 9 percent of the Cuban refugees lived in an apartment or house paid for by themselves, while 91 percent lived with relatives, friends or at facilities of religious organizations in the Cuban community (Lasaga, 1980). The sudden influx created strains and pressures on the nuclear Cuban family by adding kinfolk or newly arrived friends (McCoy, et al 1980). Reunification failures often resulted in forced or voluntary resettlement of thousands of refugees into

Table 9.—Costs incurred to Jackson Memorial Hospital: 1979-1981

Ethnic group	Number of visits	Total costs
Haitians	12,411	$ 7,413,211
Cubans	14,552	9,594,447
Nicaraguans	2,330	1,284,375
Total	29,293	$18,232,033
Reimbursed		12,280,869
Deficit		$ 5,951,164

Source: Jan B. Luyjtes, 1982.

low-rent hotel rooms, boarding homes or apartments. Even the Orange Bowl stadium served as a temporary shelter for the homeless until the Dolphins began a new football season, which prompted the hasty creation of Tent City, a minicamp that was built overnight underneath a major interstate highway in the Little Havana area of Miami. Tent City became a stop-gap home for 4,000 unrelocated and jobless refugees.

Lack of housing and the necessity of screening new arrivals dictated the rise of processing centers and the utilization of five resettlement camps in different states, which became responsible for relocating about 62,000 Cuban entrants. National voluntary agencies were responsible for resettling those held in detention camps, and another half of the Cuban entrant population went to live with relatives upon arrival in Dade County.

Resettlements were highly concentrated in a few states, particularly Florida, following a distribution pattern similar to that of Cuban-Americans already living in the United States. Nearly 80 percent of all Cuban entrants resettled in the south Florida area. (Probably a greater percentage of the 62,000 earliest arrivals settled in Dade with relatives, but data are not available on those who were released without long detainments in camps or otherwise.) The Miami SMSA in particular received the largest number of formerly detained Cuban entrants. Other areas receiving large numbers of Cubans were New Jersey, New York and California. (See Tables 10 and 11.)

Negative publicity misleading

The media convey to the public grim tales of violence allegedly attributed to the influx of Cuban criminals transported directly from Cuban jails to Miami via the boatlift. However, a recent report by the Grand Jury of the Eleventh Judicial Circuit Court of Dade County states that the crime increase attributed to Mariel refugees has been somewhat overestimated, while the crime increase attributable to other, probably illegal, aliens has been considerably underestimated (1982:12). Perhaps the single most significant statement about the refugees can be found on page 11 of that report, which states: "The overwhelming majority of Mariel refugees in our community have had no contact with our criminal justice system. . . . Mariel entrants, collectively, are making a very real and laudable attempt to assimilate themselves into this community. . . . The crisis of Mariel and its aftermath are, for the most part, behind us."

The investigations of the Grand Jury concentrated on the activities of a relatively small group of Mariel refugees, the outcasts of

Table 10.—Cuban resettlement by state

State	Resettlements	Percentage of total resettlements	Pre-boatlift Cuban-American population[1]
Florida	86,223	73.1	500,000
New Jersey	7,599	6.4	82,500
New York	5,970	5.1	90,000
California	4,920	4.2	40,000
Illinois	1,608	1.4	17,000
Texas	1,523	1.3	7,000
Pennsylvania	1,006	0.8	3,000
Puerto Rico	941	0.8	20,000
Wisconsin	905	0.8	NA
Louisiana	786	0.7	9,000
Massachusetts	490	0.4	7,000
Subtotal	111,971	95.0	775,500
Other states	5,877	4.9	36,500
Other countries	69	0.1	0
Total	117,917[2]	100.0	812,000[3]

NA Not available.

[1]Estimates do not include the 1,800 Cubans in INS detention centers.

[2]Estimates from Cuban-Haitian Task Force Monthly Reports, February 1981.

[3]Estimates from the Cuban National Planning Council, Inc., February 1981.

Table 11.—Cuban resettlements in Florida cities

Florida city	Resettlements	Percentage Florida resettlements	Percentage of total resettlements
Miami	46,224	53.6	39.2
Hialeah	18,765	21.8	15.9
Tampa	1,299	1.5	1.1
Miami Beach	707	0.8	0.6
Carol City	611	0.7	0.5
West Palm Beach	467	0.5	0.4
Coral Gables	430	0.5	0.4
Key West	374	0.4	0.3
Orlando	335	0.4	0.3
Ft. Lauderdale	228	0.3	0.2
Hollywood	208	0.2	0.2
Total	69,648	80.7	59.1

Source: Cuban-Haitian Task Force Monthly Reports, February 1981.

Table 12.—Comparisons between the general population and arrest population of Dade County: 1982

Ethnic group	Percent of Dade population	Percent of arrest population
Blacks	17	35
Whites	44	27
Mariel	7	16
Other Latin or Caribbean	--	13
Pre-Mariel Cuban	32	9

Source: Final Report of the Grand Jury, 1982.

Castro's jails and mental hospitals, who had not assimilated and in many instances had committed violent crimes which were reported in the media. Of those Mariel refugees arrested, a very violent and dangerous minority was identifiable. However, the report also found that the Immigration and Naturalization Service expressed an inability to identify or assume responsibility for this discernible minority of dangerous Mariel entrants.

Table 12 indicates very clearly that to condemn an entire group based on the acts of a minority who were transported here from Cuban jails "and criminal lifestyles, would be irresponsible" (ibid: 14).

Apparently, the arrival of Latin and Caribbean immigrants to the south Florida area has resulted in irrevocable economic and social setbacks. A history of the Hispanic presence in south Florida, and Miami in particular, has nevertheless established the positive and beneficial effect of this heterogeneous group of immigrants. Linked to Latin America by cultural and business ties, Miami Dade has become an important center for international trade, banking and tourism for Latin Americans, Caribbeanites and Americans (Strategy Research, 1980).

The Cuban-American community has made substantial progress in local industries. Today, after two decades of settlement in Miami and Dade County, there are 21 Latin-owned banks and 18,000 Latin-owned businesses. Latins are also largely responsible for the booming international trade that is so important to the area (Arboleya, 1980; *The Miami Herald*, July 5, 1982).

Of course, changes in the demographic composition of Dade County have occurred, including the addition of Cuban and Haitian refugees in need of social services and assistance. There is a sizeable population with very different cultural, educational and socioeconomic backgrounds, most of whom do not speak English, lack a support network of family, friends or community, and compete for jobs at times of high unemployment.

Thousands of newly arrived immigrants do require the provision of special services if they are to assimilate into our society. The costs of these services will continue to increase, but these costs are necessary, especially because the majority of the immigrant population in Dade County has substantial potential for success in this country. We need only look at the positive contributions of Cuban-Americans, other Latin groups and other immigrants who have made Florida their home to know this potential is possible. After all, less than one-third of present residents have claims to being native Floridians.

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